



# Amphenol<sup>®</sup> RF CONNECTORS

QUALITY  
SERVICE  
VALUE

**RF/Microwave Coaxial Connectors  
for Industry Standard  
and Commercial Applications**



**NEWARK ELECTRONICS<sup>®</sup>**  
A PREMIER Company  
Your Complete Electronic Components Source



# Amphenol® RF/Microwave Connectors

Amphenol RF/Microwave Operations is the world's largest manufacturer of coaxial connectors and cable assemblies for use in radio frequency (RF), microwave, and data transmission systems applications. With a comprehensive selection of cable connectors, receptacles, adapters, terminations and accessories, Amphenol RF serves the coaxial interconnection needs of nearly 170,000 customers world-wide.

From prototype connector and cable assembly designs through evaluation samples and test data to full production runs and stocking programs, Amphenol RF is dedicated to customer satisfaction. Whether the objective is higher performance or lower installed cost, a product modification or a totally new connector configuration, Amphenol RF is prepared to meet your needs.

## Ordering

### The Amphenol RF Distributor Network

An international network of more than 1,000 authorized Amphenol RF Distributors is available to serve you. They can provide immediate delivery for many of the RF products listed in this catalog, and they are the key to meeting your RF connector needs if you are not set up to deal directly with the factory. For the distributor nearest you, call:

#### RF Distributor Service

U.S. (203) 743-9272 or  
1-800-627-7100

International:  
(203) 796-2035

#### Factory Direct Sales

For set-up accounts, your Factory Sales Representative is your first point of contact. Your Representative provides you with information on price, delivery and product, takes your orders, and follows up to be certain that we ship to promise. Total customer satisfaction is our goal. To order, call:

#### Factory Headquarters

Amphenol Corporation  
RF/Microwave Operations  
One Kennedy Avenue  
Danbury, CT 06810

Phone: (203) 743-9272  
FAX: 203/796-2032  
TWX: 710-456-0281

## About this Catalog

Amphenol® RF offers three distinct types of coaxial connectors based upon function in transmission line applications:

- Industry Standard RF Connectors
- RFX™ Commercial Connectors
- Military/ Aerospace Connectors

This catalog contains data on the first two types: Industry Standard and RFX™ Commercial Connectors. For information on the third major type, RF/Microwave coaxial connectors qualified to Military Specifications, please contact the factory for our list of more than 500 MIL-C-39012 and MIL-A-55339 QPL part numbers.

### Industry Standard RF Connectors

The principal features of industry standard RF connectors are contained in designs originally based upon military specifications such as UG-/U, M23329, M3643, M3655, M49142, M39012 and M55339. Electrical performance closely follows the MIL Specs, and interface dimensions conform to MIL-STD-348. The basic difference between MIL Spec RF Connectors and Industry Standard RF Connectors is in plating, gasketing and certain types of required military testing. In addition, certain Amphenol designs have become, over time, the de facto industry standard, including UHF, APC-7® and other precision and high performance RF/Microwave connectors. Specifications for this category are summarized in pages 18 to 25.

### RFX™ Commercial Connectors

The Amphenol line of commercial RF connectors, with our brand name RFX™, is specifically designed for applications that do not require performance above 1 to 3 GHz, and generally are used in computer network and commercial non-defense communications systems. Interface dimensions conform to MIL-STD-348 and other provisions in the IEC. RFX™ connectors incorporate cost effective designs with state of the art materials and manufacturing processes that meet or exceed all commercial application requirements. RFX™ specifications are summarized in pages 26 and 27.

All-in-all, the connectors shown in the catalog represent approximately 95% of the designs most frequently used in RF/Microwave transmission line applications today. For additional information, please contact the factory.

## Blue Streak Service

Call us when you need a same day air shipment on a stocked item . . .

1-800-627-7100  
before 2:00 p.m. Eastern Time.

If the item is in stock, we will give you same day shipment and, if you wish, we will call you back the following morning with a Way Bill Number. Orders are subject to \$100 minimum billing.



**Notice:** Specifications in this document are subject to change without notice. Contact your Amphenol RF sales representative for the latest specifications. All statements, information and data given herein are believed to be accurate and reliable but are presented without guaranty, warranty, or responsibility of any kind, express or implied. Statements or suggestions concerning possible use of our products are made without representation or warranty that any such use is free of patent infringement, and are not recommendations to infringe any patent. The user should not assume that all safety measures are indicated or that other measures may not be required. **Amphenol is a registered trade mark of Amphenol Corporation.**

# contents

Amphenol Standard RF Part Numbers	2
Data Transmission Cross Reference	6
Military Cross Reference	7
Connector Assembly Index	8
Plating & Insulator References	9
Cable to Connector Index	10-12
Plenum Cable Connectors	13-14
RF Connector Frequency Range Chart	15
Connector Selection Guide	15-29
Printed Circuit Connector Index	29
RF/Microwave Cable Assemblies	120
Sales & Service Information	Inside Front Cover
Two-Minute Connector Course	Inside Back Cover
Action Cards	Inside Back Cover

## industry standard RF connectors

50 $\Omega$ BNC	46-55
75 $\Omega$ BNC	56-59
Twin-BNC	44-45
Type N	34-38
SMA	66-79
SMB /SMC	80-87
TNC	60-63
Keyed 90° TWINAX & T-assemblies	39-43
UHF	30-33
Mini-UHF	64-65
Between Series Adapters	91-98
Tools for Connector Assembly	88-90

## RFX™ commercial connectors

RFX™ Part Numbers & References	99-101
RFX™ Specifications	26
Cable to RFX™ Connector Index	119
50 $\Omega$ & 75 $\Omega$ BNC	102-108
Type N	113-115
TNC	109-110
Keyed 90° TWINAX	116-117
UHF	111-112
Mini-UHF	118



## standard RF part number index continued

AMPHENOL NUMBER	MILITARY NUMBER	TYPE	DESCRIPTION	PAGE
<b>82 Series con't</b>				
82-4426-1001	—	N	Plug Ethernet™ Crimp	34
82-4440	M39102/05-0501	N	Angle Plug RG-9, 214 Crimp	34
82-5370	—	N	Plug RG-55, 142B Crimp	34
82-5373	—	N	Bulkh. Jack RG-55, 142B Crimp	35
82-5374	—	N	Angle Plug RG-55, 142B Crimp	34
82-5375	—	N	Plug RG-58 Crimp	34
82-5378	—	N	Bulkh. Jack RG-58 Crimp	35
82-5379	—	N	Angle Plug RG-58 Crimp	34
82-5550-1000	—	BNC/N	Adapter (J/J)	97
82-5558	M55339/20-00201	BNC/N	Adapter (J/P)	97
82-5588	—	Twin	Adapter (J/J)	40
82-5589	—	Twin	Plug B9207 Clamp	39
82-5589-CC	—	Twin	Plug B9207 Crimp	39
82-5590	—	Twin	Bulkh. Recept. Frnt Mt (J)	39
82-5591	—	Twin	Jack B9207 Clamp	39
82-5646	—	Twin	Bulkh. Recept. Rear Mt (J)	39
82-5677	—	Twin	Tee Adapter (J/J/J)	40
82-5721-1000	—	N	LANS Terminator (J)	36
82-5749	—	Twin	Plug, Plenum Clamp	39
82-5840-1062	—	Twin	PCB (.062) Angle Rec. (Color Mon)	43
82-5841-1062	—	Twin	PCB (.062) Angle Rec. (Mono Mon)	43
82-10588	—	Twin	Bag of 50 Contacts	39
82-GB635-CR	—	Twin	Ins Plug B9207 Clamp	39
<b>83 Series</b>				
83-1AC	—	UHF	Male Cap & Chain	31
83-1AP	UG-646/U	UHF	Angle Adapter (J/P)	31
83-1F	UG-363/U	UHF	Bulkhead Adapter (J/J)	31
83-1H	UG-106/U	UHF	Hood, 4-hole Flange Mt. for RG-8	31
83-1J	PL-258	UHF	Adapter (J/J)	31
83-1R	SO-239	UHF	Panel Receptacle (J)	30
83-1SP-1050	PL-259	UHF	Plug RG-8 UG Std	30
83-1T	M-358	UHF	Tee Adapter (J/P/J)	31
83-5SP	—	UHF	Push-on Plug RG-8 UG Std	30
83-10	—	UHF/RCA	Adapter (J/P)	98
83-58FCP	—	UHF	Plug RG-58 FCP	30
83-168	UG-176/U	UHF	Reducing Adapter RG-59	30
83-185	UG-175/U	UHF	Reducing Adapter RG-58	30
83-765	UG-177/U	UHF	Hood, 4-hole Flange Mt. for RG-58	31
83-822	PL-259	UHF	Plug (TFE Ins.) RG-8 UG Std	30
83-875-1002	—	UHF	Bulkhead Receptacle (J)	30
83-878	—	UHF	Bulkhead Receptacle (J)	30
83-887	—	UHF	Male Cap, RT 51Ω	31
83-888	—	UHF	Male Cap, Lamp Load	31
<b>95 Series</b>				
95-555-11101	—	C/A	Twinax T-Assy	42
95-555-11102	—	C/A	Twinax T-Assy, Ferrite Slvs.	42
95-560-11103	—	C/A	Twinax T-Assy, 15 Pin D-Sub	42
<b>131 Series</b>				
131-1074	—	APC-NISMA	Adapter (P/P)	95
131-1075	—	APC-NISMA	Adapter (P/J)	95
131-1076	—	APC-NISMA	Adapter (J/J)	97
131-1077	—	APC-NISMA	Adapter (J/J)	97
131-1185	—	APC-NISMA	Bulkhead Adapter (J/J)	92
131-91028	—	APC-7/SMA	Adapter (C/J)	97
131-91038	—	APC-7/SMA	Adapter (C/P)	97

AMPHENOL NUMBER	MILITARY NUMBER	TYPE	DESCRIPTION	PAGE
<b>227 Series</b>				
227-60 ‡	—	Tool	Pneumatic Crimp Tool Swivel Base & Foot Switch	89
227-131-2025	—	Tool	APC-7 Tool Kit	90
227-901-2400	—	Tool	SMA Taper Tool	90
227-901-2512	—	Tool	Removal Tool for replacing Comp. Crimp Sleeve	90
227-944	M22520/5-01	Tool	Frame for TWINHEX 227-1221-XX and other indicated Die Sets*	89
*227-980-1	—	Die Set	Cavities .255" hex, .049"sq.	89
*227-980-2	—	Die Set	Cavities .178" hex, .049"sq.	89
*227-980-3	—	Die Set	Cavities .324" hex, .052"sq.	89
*227-980-7	—	Die Set	Cavities .178" hex, .052"sq.	89
*227-1221-03	M22520/5-03	Die Set	Hex Cavities .128", .105"	89
*227-1221-09	M22520/5-09	Die Set	Hex Cavities .178", .068"	89
*227-1221-11	M22520/5-11	Die Set	Hex Cavities .213", .068"	89
*227-1221-13	M22520/5-13	Die Set	Hex Cavities .255", .068"	89
*227-1221-15	M22520/5-15	Die Set	Hex Cavities .263", .068"	89
*227-1221-23	M22520/5-23	Die Set	Hex Cavity .384"	89
*227-1221-25	M22520/5-25	Die Set	Hex Cavities .429", .100"	89
*227-1221-29	M22520/5-29	Die Set	Hex Cavities .324", .100"	89
*227-1221-32	—	Die Set	Hex Cavities .324", .068"	89
*227-1221-37	M22520/5-37	Die Set	Hex Cavities .314", .151"	89
*227-1221-57	M22520/5-57	Die Set	Hex Cavities .213", .100"	89
*227-1221-59	M22520/5-59	Die Set	Hex Cavities .255", .100"	89
*227-1402	—	Die Set	Cavities .240" dia., .044" sq.	89
*227-1409	—	Die Set	Cavities .213"hex, .052"sq.	89
*227-1414	—	Die Set	Hex Cavities .429", .075", .075"sq.	89
*227-1448	—	Die Set	Cavities .160"hex, .049"sq.	89
227-1451	M22520/36-101	Tool	SMA Compression Crimp Tool	90
227-1451-1	M22520/36-102	Tool	Positioner for .086" S/R	90
227-1451-2	M22520/36-103	Tool	Positioner for .141" S/R	90
227-1451-3	M22520/36-104	Tool	Locator Pin for 901-606, -613, -614	90
227-1451-4	M22520/36-105	Tool	Locator Pin for 901-617, -618, -619, 90-620, -621, -622	90
227-1451-5	—	Tool	Removal Tool for Locator Pins	90
227-1454	M22520/2-01	Tool	Mini- 8-indent Crimp Tool for SMA Center Contacts	90
227-1454-1	—	Tool	Positioner for 901-9511-1SFC, -3SFC, -12SFC	90
<b>CTL Series</b>				
CTL-1	—	Tool	Tool & Die Set Complete; Hex Cavities 88 .052", .068", .100", .213", .255"	88
CTL-2	—	Tool	Tool & Die Set Complete; Hex Cavities 88 .178", .324", .068"	88
CTL-3	—	Tool	Tool & Die Set Complete; Hex Cavities 88 .100", .429", .213"	88
CTL-4	—	Tool	Tool & Die Set Complete; Hex Cavities 88 .429", .075", .075"	88

\* Use these Die Sets in Tool Frame 227-944 or in Pneumatic Crimp Tool 227-60

‡ Die Sets for 227-60 are same as those used in Hand Tool Frame 227-944 and are sold separately.



## standard RF part number index continued

AMPHENOL NUMBER	MILITARY NUMBER	TYPE	DESCRIPTION	PAGE
<b>901 Series</b>				
901-143	—	SMA	PC Angle Receptacle (J)	71
901-143-3	—	SMA	PC Angle Receptacle (J)	71
901-143-4	—	SMA	PC Angle Receptacle (J)	71
901-144	—	SMA	PC Receptacle (J)	71
901-144-1	—	SMA	PC Receptacle (J)	71
901-144-2	—	SMA	PC Receptacle (J)	71
901-144-3	—	SMA	PC Receptacle (J)	71
901-144-4	—	SMA	PC Receptacle (J)	71
901-164	—	BNC/SMA	Adapter (P/P)	95
901-165	—	BNC/SMA	Adapter (P/J)	95
901-166	—	BNC/SMA	Adapter (J/P)	97
901-167	—	BNC/SMA	Adapter (J/J)	97
901-168	—	SMA/TNC	Adapter (P/P)	95
901-169	—	SMA/TNC	Adapter (J/P)	98
901-171	—	SMA/TNC	Adapter (J/J)	98
901-274	—	SMA	Angle Adapter (P/P)	72
901-280	—	SMA/TNC	Panel Adapter (J/J)	92
901-292	—	N/SMA	Adapter (P/P)	95
901-293	—	N/SMA	Adapter (J/P)	97
901-294	—	N/SMA	Adapter (P/J)	95
901-295	—	N/SMA	Adapter (J/J)	97
901-508	—	SMA	Phase Adj. Adapter (P/J)	74
901-509	—	SMA	Phase Adj. Plug .141 S/R Solder	74
901-510	—	SMA	Phase Adj. Plug .086 S/R Solder	74
901-606	—	SMA	Plug .141 S/R Comp. Crimp	66
901-606-11	M39012/92-3201	SMA	Plug .141 S/R Comp. Crimp	66
901-606-51	M39012/92-3301	SMA	Plug .141 S/R Comp. Crimp	66
901-613	—	SMA	Plug .086 S/R Comp. Crimp	66
901-613-11	M39012/79-3207	SMA	Plug .086 S/R Comp. Crimp	66
901-613-51	M39012/79-3307	SMA	Plug .086 S/R Comp. Crimp	66
901-614	—	SMA	Plug .141 S/R Comp. Crimp	66
901-614-11	M39012/79-3208	SMA	Plug .141 S/R Comp. Crimp	66
901-614-51	M39012/79-3308	SMA	Plug .141 S/R Comp. Crimp	66
901-3143-1000	—	N/SMA	Bulkhead Adapter (J/J)	92
901-6255-1	—	Access.	Comp. Crimp Sleeve .141 S/R	90
901-6374-1	—	Access.	Comp. Crimp Sleeve .086 S/R	90
901-9000-CC	—	SMA	Trimline Receptacle (J)	70
901-9000-CCSF	—	SMA	Trimline Receptacle (J)	70
901-9011	—	N/SMA	Panel Adapter (J/J)	92
901-9033	—	SMB/SMA	Adapter (J/J)	98
901-9034	—	SMB/SMA	Adapter (P/J)	98
901-9035	—	SMC/SMA	Adapter (J/J)	98
901-9036	—	SMC/SMA	Adapter (P/J)	98
901-9037	—	SMB/SMA	Adapter (J/P)	95
901-9038	—	SMB/SMA	Adapter (P/P)	95
901-9173	—	BNC/SMA	Adapter (J/J)	92
901-9201-1A	—	SMA	Plug .141 S/R Solder	66
901-9201-1ASF	—	SMA	Plug .141 S/R Solder	66
901-9201-2A	—	SMA	Plug .086 S/R Solder	66
901-9202-1A	—	SMA	Jack .141 S/R Solder	68
901-9204	—	SMA	Panel Receptacle (J)	69
901-9204-CC	—	SMA	Panel Receptacle (J)	69
901-9204-CCSF	—	SMA	Panel Receptacle (J)	69
901-9204-SF	—	SMA	Panel Receptacle (J)	69
901-9204-1CC	—	SMA	Panel Receptacle (J)	69
901-9204-1CCSF	—	SMA	Panel Receptacle (J)	69
901-9204-2CC	—	SMA	Panel Receptacle (J)	69
901-9204-2CCSF	—	SMA	Panel Receptacle (J)	69
901-9204-3CC	—	SMA	Panel Receptacle (J)	69
901-9204-3CCSF	—	SMA	Panel Receptacle (J)	69
901-9204-4CC	—	SMA	Panel Receptacle (J)	69
901-9204-4CCSF	—	SMA	Panel Receptacle (J)	69
901-9209-A	—	SMA	Bulkhead Adapter (J/J)	72
901-9209-ASF	—	SMA	Bulkhead Adapter (J/J)	72

AMPHENOL NUMBER	MILITARY NUMBER	TYPE	DESCRIPTION	PAGE
901-9210-1	—	SMA	Bulkhead Jack .141 S/R Solder	68
901-9210-2	—	SMA	Bulkhead Jack .086 S/R Solder	68
901-9211	—	SMA	Bulkhead Receptacle (J)	71
901-9211-SF	—	SMA	Bulkhead Receptacle (J)	71
901-9214-CC	—	SMA	Panel Receptacle (P)	69
901-9214-CCSF	—	SMA	Panel Receptacle (P)	69
901-9215	—	SMA	Panel Receptacle (J)	69
901-9215-SF	—	SMA	Panel Receptacle (J)	69
901-9216	—	SMA	Adapter (P/J)	72
901-9216-SF	—	SMA	Adapter (P/J)	72
901-9217	—	SMA	Adapter (J/J)	72
901-9217-SF	—	SMA	Adapter (J/J)	72
901-9218	—	SMA	Adapter (P/P)	72
901-9218-SF	—	SMA	Adapter (P/P)	72
901-9219-A	—	SMA	Angle Adapter (P/J)	72
901-9219-ASF	—	SMA	Angle Adapter (P/J)	72
901-9220	—	SMA	Bulkhead Receptacle (J)	71
901-9220-SF	—	SMA	Bulkhead Receptacle (J)	71
901-9221-1A	—	SMA	Angle Plug .141 S/R Solder	66
901-9221-1ASF	—	SMA	Angle Plug .141 S/R Solder	66
901-9221-2A	—	SMA	Angle Plug .086 S/R Solder	66
901-9221-2ASF	—	SMA	Angle Plug .086 S/R Solder	66
901-9244-1	—	SMA	Trimline Receptacle (J)	70
901-9244-1SF	—	SMA	Trimline Receptacle (J)	70
901-9244-2	—	SMA	Trimline Receptacle (J)	70
901-9244-2SF	—	SMA	Trimline Receptacle (J)	70
901-9511-1	—	SMA	Plug RG-55, 142B Crimp	67
901-9511-1SF	—	SMA	Plug RG-55, 142B Crimp	67
901-9511-1SFC	—	SMA	Plug RG-55, 142B Crimp-Crimp	67
901-9511-3	—	SMA	Plug RG-316 Crimp	67
901-9511-3SF	—	SMA	Plug RG-316 Crimp	67
901-9511-3SFC	—	SMA	Plug RG-316 Crimp-Crimp	67
901-9511-12SF	—	SMA	Plug Dbl. Br. RG-316 Crimp	67
901-9511-12SFC	—	SMA	Plug Dbl. Br. RG-316 Crimp-Crimp	67
901-9531-1	—	SMA	Angle Plug RG-142 Crimp	67
901-9531-1SF	—	SMA	Angle Plug RG-142 Crimp	67
901-9531-3	—	SMA	Angle Plug RG-316 Crimp	67
901-9531-3SF	—	SMA	Angle Plug RG-316 Crimp	67
901-9531-12	—	SMA	Angle Plug Dbl. Br. RG-316 Crimp	67
901-9531-12SF	—	SMA	Angle Plug Dbl. Br. RG-316 Crimp	67
901-9601-1	—	SMA	Plug RG-55, 142B Crimp	67
901-9601-1SF	—	SMA	Plug RG-55, 142B Crimp	67
901-9601-3	—	SMA	Plug RG-316 Crimp	67
901-9601-3SF	—	SMA	Plug RG-316 Crimp	67
901-9602-1	—	SMA	Jack RG-55, 142B Crimp	68
901-9602-1SF	—	SMA	Jack RG-55, 142B Crimp	68
901-9602-3	—	SMA	Jack RG-316 Crimp	68
901-9602-3SF	—	SMA	Jack RG-316 Crimp	68
901-9610-1	—	SMA	Bulkh. Jack RG-55, 142B Crimp	68
901-9610-1SF	—	SMA	Bulkh. Jack RG-55, 142B Crimp	68
901-9610-3	—	SMA	Bulkh. Jack RG-316 Crimp	68
901-9610-3SF	—	SMA	Bulkh. Jack RG-316 Crimp	68
901-9610-12SF	—	SMA	Bulkh. Jack Dbl. Br. RG-316 Crimp	68
901-9718	—	3.5/N	Panel Adapter (J/J)	92
901-9720	—	SMA/N	Panel Adapter (J/J)	92
901-9723	—	SMA	Plug .086 S/R Solder	66
901-9808	—	SMA	Plug .141 S/R Solder	66
901-B2504-317	—	N/SMA	Panel Adapter (J/P)	92

## part number index continued

AMPHENOL NUMBER	MILITARY NUMBER	TYPE	DESCRIPTION	PAGE
<b>903 Series</b>				
903-108J-71S	—	75ΩSMB	Bulkhead Jack RG-179 Crimp	83
903-152P-71S	—	75ΩSMB	Plug RG-180,195 Crimp	83
903-284P-52S	—	SMC	Plug RG-316 Crimp (GP)	84
903-284P-52S1	—	SMC	Plug RG-316 Crimp (NP)	84
903-285P-51S	—	SMB	Plug RG-316 Crimp (GP)	80
903-287P-51S	—	SMB	Plug RG-178 Crimp (GP)	80
903-288P-52A	—	SMC	Angle Plug RG-316 Crimp	84
903-289P-51A	—	SMB	Angle Plug RG-316 Crimp (GP)	80
903-291P-51A	—	SMB	Angle Plug RG-178 Crimp (GP)	80
903-297J-51S	—	SMB	Bulkh. Jack RG-316 Crimp	80
903-305J-51R	—	SMB	Bulkhead Receptacle	81
903-362P-52A1	—	SMC	Angle Plug Dbl. Br. RG-316 Crimp	84
903-367P-51A	—	SMB	Angle Plug RG-316 Crimp (NP)	80
903-367P-51A1	—	SMB	Angle Plug RG-316 Crimp	80
903-368P-51A	—	SMB	Angle Plug RG-178 Crimp (NP)	80
903-369P-51A	—	SMB	Angle Plug Dbl. Br. RG-316 Crimp	80
903-370P-51S	—	SMB	Plug RG-316 Crimp (NP)	80
903-371P-51S	—	SMB	Plug RG-178 Crimp (NP)	80
903-373J-51A	—	SMB	PC Angle Receptacle (J)	82
903-375J-53P	—	SMB	PC Bulk. Receptacle (J)	82
903-376J-51A	—	SMB	PC Angle Bulk. Recept. (J)	82
903-377A-52B1	—	BNC/SMC	Bulkh. Adapt Fuse Hldr. .062 amp	92
903-377P-52B2	—	BNC/SMC	Bulkh. Adapt Fuse Hldr. .125 amp	92
903-378J-52A	—	SMC	PC Angle Receptacle (J)	85
903-382J-71R	—	75ΩSMB	Bulkhead Receptacle (J)	83
903-402J-51R	—	SMB	Bulkhead Receptacle (J)	81
903-406J-51R	—	SMB	Bulkhead Receptacle (J)	81
903-407J-51A	—	SMB	Recessed Receptacle (J)	81
903-408J-52R	—	SMC	Bulkhead Receptacle (J)	84
903-409J-53P	—	SMB	PC Receptacle (J)	82
903-410P-53P	—	SMB	PC Receptacle (P)	82
903-411J-51S1	—	SMB	Bulkh. Jack Dbl. Br. RG-316 Crimp	80
903-413J-51A	—	SMB	PC Angle Bulk. Recept. (J)	82
903-415J-51P	—	SMB	PC Receptacle (J) Gold Plt.	82
903-416J-51R	—	SMB	Angle Bulk. Recept. (J)	81
903-418J-52A	—	SMC	PC Angle Bulk. Recept. (J)	85
903-420J-52P	—	SMC	PC Receptacle (J)	85
903-421J-52P	—	SMC	PC Bulk. Receptacle (J)	85
903-422J-51A	—	SMB	Angle Bulk. Jack RG-316 Crimp	80
903-427P-51P	—	SMB	PC Low Profile Recept. (P) (GP)	81
903-428J-51P	—	SMB	PC Low Profile Angle Recept. (J) (GP)	81
903-429P-51A	—	SMB	Low Profile Angle Plug RG-316 (NP)	80
903-495P-71A	—	75ΩSMB	Angle Plug 621-4460-795 Crimp.	83
903-496J-51S	—	SMB	PC Receptacle (J) Nickel Plt.	82
903-10408-1	—	Acces.	Nut. 250 Hex. 10-32NF-2B Gold Plt.	84
903-10408-2	—	Acces.	Nut. 250 Hex. 10-32NF-2B Nickel Plt.	84
903-10409-1	—	Acces.	Lockwasher .305 dia. Gold Plt.	84
903-10409-2	—	Acces.	Lockwasher .305 dia. Nickel Plt.	84

## data transmission cross reference †

WANG NUMBER	AMPHENOL NUMBER	TYPE	DESCRIPTION	PAGE
350-1036	31-221	BNC	Bulkhead Receptacle	49
350-2074	31-5061	TNC	Plug for RG-59,62	60
350-2075	31-4541	BNC	Plug for RG-59,62	46
350-2076	31-4791	TNC	Jack-Jack Adapter	61
350-2078	31-2276	TNC	Bulkhead Receptacle	Δ
350-2113	31-5422	TNC	Plug for RG-59,62	Δ
350-2114	31-5421	BNC	Plug for RG-59,62	Δ
350-3054	31-220H	BNC	Bulkhead Adapter	52
350-3055	79100	TNC	Bulkhead Adapter	61
350-3064	31-222	BNC	Angle Bulkhead Recept.	Δ
350-3065	31-5080	TNC	Angle Bulkhead Recept.	Δ

IBM NUMBER	AMPHENOL NUMBER	TYPE	DESCRIPTION	PAGE
11F7406	95-555-11102	C/A	Twinax T-Assy Ferrite Slvs	42
1620666	31-221	BNC	Bulkhead Receptacle, Front Mt	49
1628045	31-70008	75Ω BNC	Plug for RG-59,62	56
1836444	31-4541	BNC	QUICKTRIM Plug RG-59,62	46
1836447	31-4542	BNC	QUICKTRIM Plug, B9268	46
2245373	31-759	BNC	Shield Grounding Lug	49
3110787	4700	BNC	Male Cap & Chain, RT	Δ
317228	83-1R	UHF	Panel Receptacle	30
3213987	83-1T	UHF	Tee Adapter J/P/J	31
4449035	31-5060	BNC	QUICKTRIM Plug, Plenum RG-62	46
460147	83-1SP-1050	UHF	Plug RG-8,9,11,213,214,225	30
5052750	32225	TWIN	Plug for RG-22 Twinax	Δ
5252661	31-4595-1000/or	BNC	Bulkhead Jack (Brass)	Δ
	31-4595-1001	BNC	Bulkhead Jack (Die Cast)	Δ
5252758	31-212-1051	BNC	Plug RG-62A Type Cable	Δ
5252764	31-220H	BNC	Bulkhead Adapter, J/J	52
5651725	31-235	Twin-BNC	Twin Panel Receptacle	Δ
5768519	82-112	N	75Ω Panel Receptacle	Δ
5771284	31-352	BNC	Plug RG-122,180,195, Min. RG-59	Δ
6028305	31-8	BNC	Tee Adapter J/P/J	Δ
6028495	82-67	N	Blkh. Jack RG-8	35
6028521	31-9	BNC	Angle Adapter P/J	52
6084442	901-361-1	SMA	Angle Plug RG-174,179,187,316	Δ
6090448	31-4552	TNC	Blkh. Jack for .141" S/R	Δ
6091068	82-5751	TWIN	Male Cap, RT 75Ω	Δ
609368	901-183-1	SMA	Plug .141 S/R	Δ
6342826	82-5840-1062	TWIN	Angle PCB Receptacle	43
6457101	82-5841-1062	TWIN	Angle PCB Receptacle	43
6457102	95-555-11101	C/A	Twinax T-Assy	42
6554442	82-833	HN	Angle Plug RG-6,9,87A,213,214,225	Δ
6814330	31-4758	BNC	PC Mount Receptacle	Δ
6838959	82-5591	TWIN	Plug for Twinax Cable 7362211	39
6851167	82-5677	TWIN	Tee Adapter J/J/J	40
7362064	82-5749	TWIN	Plug for Plenum Twinax	39
7362179	82-5590	TWIN	Bulkhead Receptacle, Front Mt	39
7362188	82-5587	TWIN	Male Cap, RT 54.9Ω	Δ
7362229	82-5589	TWIN	Plug for Twinax Cable 7362211	39
7362230	82-5588	TWIN	Straight Adapter J/J	40
7363102	82-5628	TWIN/BNC	Adapter TWIN (P) to BNC (J)	Δ
7364498	82-5646	TWIN	Bulkhead Receptacle, Rear Mt	39
7369083	7925	TWIN	Bulkhead Adapter (J/J)	Δ
8113119	82-GB635-CR	TWIN	Ins. Plug for 7362211 Cable	39
925390	31-10	BNC	Receptacle, isolated from ground	49

† for RFX data transmission cross reference, see page 101.

Δ = available, not shown.



## military cross reference\*

MILITARY NUMBER	AMPHENOL NUMBER	TYPE	DESCRIPTION	PAGE
<b>UG-NUMBERS</b>				
UG-21B/U	82-61	N	Use 82-202	34
UG-21D/U	82-202	N	Plug RG-8 Clamp	34
UG-22B/U	82-62	N	Panel Jack RG-8 Clamp	35
UG-23B/U	82-63	N	Jack RG-8 Clamp	35
UG-27A/U	82-64	N	Angle Adapter (J/P)	36
UG-28A/U	82-99	N	Tee Adapter (J/J/J)	36
UG-29B/U	82-101	N	Adapter (J/J)	36
UG-30/U	82-66	N	Bulkhead Adapter (J/J)	36
UG-57B/U	82-100	N	Adapter (P/P)	36
UG-58A/U	82-97	N	Panel Receptacle (J)	35
UG-83/U	14000	N/UHF	Adapter (J/P)	98
UG-88/U	31-2	BNC	Use 31-202	46
UG-88C/U	31-202	BNC	Plug RG-58 Clamp	46
UG-89B/U	31-205	BNC	Jack RG-58 Clamp	48
UG-106/U	83-1H	UHF	Hood, 4 hole Flange Mt. for RG-8	31
UG-107B/U	82-102	N	Tee Adapter (J/P/J)	36
UG-146/U	4400	N/UHF	Adapter (P/J)	95
UG-160A/U	82-67	N	Bulkhead Jack RG-8 Clamp	35
UG-175/U	83-185	UHF	Reducing Adapter RG-58	30
UG-176/U	83-168	UHF	Reducing Adapter RG-59	30
UG-177/U	83-765	UHF	Hood, 4 hole Flange Mt. for RG-58	31
UG-201A/U	31-216	BNC/N	Adapter (J/P)	97
UG-255/U	2900	BNC/UHF	Adapter (P/J)	95
UG-260B/U	31-212	BNC	Plug RG-59 Clamp	46
UG-261B/U	31-215	BNC	Jack RG-59 Clamp	48
UG-273/U	31-28	BNC/UHF	Adapter (J/P)	97
UG-274A/U	31-208	BNC	Tee Adapter (J/P/J)	52
UG-290A/U	31-203	BNC	Panel Receptacle (J)	49
UG-306/U	31-9	BNC	Angle Adapter (J/P)	52
UG-309/U	8900	BNC/HN	Adapter (J/P)	97
UG-318/U	26700	N/UHF	Adapter (P/P)	95
UG-349A/U	31-217	BNC/N	Adapter (P/J)	95
UG-363/U	83-1F	UHF	Bulkhead Adapter (J/J)	31
UG-491A/U	31-218	BNC	Adapter (P/P)	52
UG-492A/U	31-220H	BNC	Bulkhead Adapter (J/J)	52
UG-492D/U	31-3220	BNC	Bulkhead Adapter (J/J)	52
UG-536B/U	34025	N	Plug RG-58 Clamp	34
UG-564/U	82-508	C/N	Adapter (J/P)	97
UG-565A/U	82-540	C/N	Adapter (P/J)	95
UG-602/U	36500	N	Jack RG-59 Clamp	35
UG-603A/U	34525	N	Plug RG-59 Clamp	34
UG-625B/U	31-236	BNC	Bulkhead Receptacle (J)	49
UG-635/U	83175	BNC/C	Adapter (P/J)	95
UG-636A/U	83200	BNC/C	Adapter (J/P)	97
UG-646/U	83-1AP	UHF	Angle Adapter (J/P)	31
UG-680/U	82-811	N	Bulkhead Receptacle (J)	35
UG-909/U	31-206	BNC	Bulk Jack RG-58 Clamp	48
UG-910/U	31-207	BNC	Bulk Jack RG-59 Clamp	48
UG-913/U	31-204	BNC	Angle Plug RG-58 Clamp	47
UG-914/U	31-219	BNC	Adapter (J/J)	52
UG-1033/U	84975	BNC	Plug RG-122, B8218 Clamp	46
UG-1034/U	5225	BNC/N	Adapter (P/P)	95
UG-1094/U	31-221	BNC	Bulkhead Receptacle (J)	49
UG-1094A/U	31-2221	BNC	Bulkhead Receptacle (J)	49

MILITARY NUMBER	AMPHENOL NUMBER	TYPE	DESCRIPTION	PAGE
<b>MIL-T-22520</b>				
M22520/2-01	227-1454	Die Set	Mini 8-indent Crimp Tool	90
M22520/5-01	227-944	Tool	Frame for TWIN-EX 227-1221-XX Die Sets	89
M22520/5-03	227-1221-03	Die Set	Hex Cavities .128", .105"	89
M22520/5-09	227-1221-09	Die Set	Hex Cavities .178", .068"	89
M22520/5-11	227-1221-11	Die Set	Hex Cavities .213", .068"	89
M22520/5-13	227-1221-13	Die Set	Hex Cavities .255", .068"	89
M22520/5-15	227-1221-15	Die Set	Hex Cavities .263", .068"	89
M22520/5-23	227-1221-23	Die Set	Hex Cavities .384"	89
M22520/5-25	227-1221-25	Die Set	Hex Cavities .429", .100"	89
M22520/5-29	227-1221-29	Die Set	Hex Cavities .324", .100"	89
M22520/5-37	227-1221-37	Die Set	Hex Cavities .314", .151"	89
M22520/5-57	227-1221-57	Die Set	Hex Cavities .213", .100"	89
M22520/5-59	227-1221-59	Die Set	Hex Cavities .255", .100"	89
M22520/36-101	227-1451	Tool	SMA Compression Crimp Tool	90
M22520/36-102	227-1451-1	Tool	Positioner for .086" S/R	90
M22520/36-103	227-1451-2	Tool	Positioner for .141" S/R	90
M22520/36-104	227-1451-3	Tool	Locator Pin for 901-606, -613, -614	90
M22520/36-105	227-1451-4	Tool	Locator Pin for 901-617, -618, -619, -620, -621, -622	90
<b>MIL-C-23329</b>				
M23329/3-01.3-03	31-320	BNC	Plug RG-58 Crimp	46
M23329/3-05	31-321	BNC	Plug RG-59 Crimp	46
M23329/3-15.3-17	31-342	BNC	Bulk Jack RG-58 Crimp	48
M23329/3-19	31-343	BNC	Bulk Jack RG-59 Crimp	48
M23329/4-01.4-03	31-2367	TNC	Plug RG-58 Crimp	60
M23329/4-05	31-2368	TNC	Plug RG-59 Crimp	60
M23329/4-07.4-09	31-2374	TNC	Jack RG-58, 141 Crimp	61
M23329/4-08.4-10	31-2380	TNC	Jack RG-55, 142 Crimp	61
M23329/4-11	31-2375	TNC	Jack RG-59, 62, 210 Crimp	61
M23329/4-13.4-15	31-2389	TNC	Bulkhead Jack RG-58, 141 Crimp	61
<b>MIL-C-39012</b>				
M39012/01B0007	82-340	N	Plug RG-8, 213 Crimp	34
M39012/01B0013	82-342	N	Plug RG-11, 144 Crimp	34
M39012/01-0501	82-4425	N	Plug RG-214, 393 Crimp	34
M39012/05-0501	82-4440	N	Angle Plug RG-214 Crimp	34
M39012/16-0013	31-4320	BNC	Plug RG-58, 303 Crimp	46
M39012/16-0015	31-4321	BNC	Plug RG-59, 62, 210 Crimp	46
M39012/28-0012	31-2264	TNC	Bulkhead Jack RG-59, 62, 210 Crimp	61
M39012/79-3207	901-613-11	SMA	Plug .086 S/R Comp. Crimp	66
M39012/79-3208	901-614-11	SMA	Plug .141 S/R Comp. Crimp	66
M39012/79-3307	901-613-51	SMA	Plug .086 S/R Comp. Crimp	66
M39012/79-3308	901-614-51	SMA	Plug .141 S/R Comp. Crimp	66
M39012/92-3201	901-606-11	SMA	Plug .141 S/R Comp. Crimp	66
M39012/92-3301	901-606-51	SMA	Plug .141 S/R Comp. Crimp	66
<b>MIL-A-55339</b>				
M55339/20-00201	82-5558	BNC/N	Adapter (J/P)	97
<b>MISCELLANEOUS</b>				
CW-123	31-6	BNC	Male Cap & Chain	52
M-358	83-1T	UHF	Tee Adapter (J/P/J)	31
MX-913	82-106	N	Male Cap & Chain	36
PL-258	83-1J	UHF	Adapter (J/J)	31
PL-259	83-1SP-1050 or UHF	UHF	Plug RG-8 UG Std	30
	83-822	UHF	Plug (TFE Ins) RG-8 UG Std	30
SO-239	83-1R	UHF	Panel Receptacle (J)	30

\* for complete military/Amphenol cross reference, please contact the factory.

## connector assembly index\*

AMPHENOL NUMBER	INSTRUCTION PAGE	AMPHENOL NUMBER	INSTRUCTION PAGE	AMPHENOL NUMBER	INSTRUCTION PAGE	AMPHENOL NUMBER	INSTRUCTION PAGE
6775-75	54	31-2383	62	31-71016	59	901-9202-1A	76
6575	54	31-2389	62	31-71021	59	901-9210-1	76
18750	38	31-4320	53	31-71032	59	901-9210-2	76
34025	38	31-4321	53	31-71033	59	901-9221-1A	77
34525	38	31-4411	53	31-71034	59	901-9221-1ASF	77
35025	38	31-4541	55	31-71035	59	901-9221-2A	77
36500	38	31-4542	55			901-9221-2ASF	77
36650-1003	53	31-5060	55	<b>81 Series</b>		901-9511-1	78
36775	53	31-5061	63	81-114	65	901-9511-1SF	78
36800	53	31-5062	63	81-115	65	901-9511-1SFC	79
36825	62	31-5108	63	81-116	65	901-9511-3	78
68150	53	31-5136	55	81-117	65	901-9511-3SF	78
68150-1002	53	31-5137	55			901-9511-3SFC	79
68175	53	31-5138	55	<b>82 Series</b>		901-9511-12SF	78
68175-1003	53	31-5139	55	82-61	38	9901-9511-12SFC	79
68175-1004	53	31-5151	55	82-62	38	901-9531-1	78
68175-1005	53	31-5152	55	82-63	38	901-9531-1SF	78
68175-1011	53	31-5153	55	82-67	38	901-9531-3	78
69350	62	31-5154	55	82-202	38	901-9531-3SF	78
69350-1001	62	31-5155	55	82-202-1006	38	901-9531-12	78
79075	62	31-5240	63	82-340	37	901-9531-12SF	78
79525	62	31-5241	63	82-342	37	901-9601-1	78
79875	62	31-5242	63	82-835	38	901-9601-1SF	78
84975	54	31-5243	63	82-4425	37	901-9601-3	78
86225	54	31-5244	63	82-4426-1001	37	901-9601-3SF	78
95600	53	31-5245	63	82-4440	37	901-9602-1	78
95625	53	31-5369	55	82-5370	37	901-9602-1SF	78
		31-5370	55	82-5373	37	901-9602-3	78
<b>31 Series</b>		31-5371	63	82-5374	37	901-9602-3SF	78
31-2	54	31-5634	62	82-5375	37	901-9610-1	78
31-202	54	31-70000	59	82-5378	37	901-9610-1SF	78
31-204	54	31-70008	59	82-5379	37	901-9610-3	78
31-205	54	31-70008-1000	59	82-5589	41	901-9610-3SF	78
31-206	54	31-70009	59	82-5589-CC	40	901-9610-12SF	78
31-207	54	31-70010	59	82-5591	41	901-9723	76
31-212	54	31-70011	59	82-5749	41	901-9808	76
31-215	54	31-70012	59	82-GB635-CR	41		
31-224	45	31-70013	59	<b>83 Series</b>		<b>903 Series</b>	
31-242	53	31-70013-1000	59	83-1H	33	903-108J-71S	86
31-245	53	31-70014	59	83-1SP-1050	32	903-152P-71S	86
31-315	53	31-70015	59	83-5SP	32	903-284P-52S	86
31-315-1005	53	31-70015-1000	59	83-58FCP	33	903-284P-52S1	86
31-318	53	31-70016	59	83-168	32	903-285P-51S	86
31-320	53	31-70016-1000	59	83-185	32	903-287P-51S	86
31-320-1006	53	31-70017	59	83-765	33	903-288P-52A	87
31-321	53	31-70022	59	83-822	32	903-289P-51A	87
31-321-1000	53	31-70027	59			903-291P-51A	87
31-325	53	31-70048	59	<b>901 Series</b>		903-297J-51S	86
31-335	53	31-70082	59	901-509	75	903-362P-52A1	87
31-336	53	31-71000	59	901-510	75	903-367P-51A	87
31-342	53	31-71001	59	901-906	77	903-367P-51A1	87
31-343	53	31-71002	59	901-906-11	77	903-368P-51A	87
31-343-1002	53	31-71003	54	901-906-51	77	903-369P-51A	87
31-2226	45	31-71008	59	901-613	77	903-370P-51S	86
31-2264	62	31-71008-1000	59	901-613-11	77	903-371P-51S	86
31-2318	62	31-71008-2000	59	901-613-51	77	903-411J-51S1	86
31-2367	62	31-71009	59	901-614	77	903-422J-51A	87
31-2368	62	31-71010	59	901-614-11	77	903-429P-51A	87
31-2374	62	31-71011	59	901-614-51	77	903-495P-71A	87
31-2375	62	31-71013	59				
31-2380	62	31-71013-1000	59	901-9201-1A	76		
31-2382	62	31-71014	59	901-9201-1ASF	76		
				901-9201-2A	76		

\* for RFX connector assembly index, see page 101.



cable attachment reference<sup>▲</sup>

CAI CODE	CONN TYPE	ATTACHMENT [SEE P. 101 FOR RFX]	INSTRUCTION PAGE
C1	UHF	UG Standard Solder Type	32
C2	UHF	FCP Type	33
C3	UHF	With Reducing Adapter	32
C4	N	MIL Clamps & Standard Clamp	38
C5	N	MIL Crimps & Crimp-Crimp	37
C6	Twinax	Clamp Type Keyed Twinax	41
C7	Twinax	Crimp Type Keyed Twinax	40
C8	Mini-UHF	Crimp-Crimp	65
C9	BNC	Crimp-Crimp	53
C10	BNC	Clamp	54
C11	BNC	SURETWIST®	55
C12	BNC	QUICKTRIM®	55
C13	TNC	Crimp-Crimp	62
C14	TNC	Clamp	62
C15	TNC	SURETWIST®	63
C16	TNC	QUICKTRIM®	63
C17	SMA	Solder to Body	76
C18	SMA	Solder to Body	76
C19	SMA	Solder to Body	76
C20	SMA	Solder to Body-Angle Plug	77
C21	SMA	Compression Crimp	77
C22	SMA	Braid Crimp/Solder Contact	78
C23	SMA	Crimp-Crimp	79
C24	SMA	Solder to Body-Phase Adjustable	75
C25	SMB/SMC	Braid Crimp/Solder Contact	86
C26	SMB/SMC	Braid Crimp/Solder Contact	87
C27	Twin-BNC	Clamp	45
C28	UHF	Hoods/Braid Solder	33
C29	75Ω BNC/TNC	Crimp Crimp	59

insulator/dielectric reference<sup>▲</sup>

INS. CODE	DIELECTRIC MATERIAL [SEE PAGE 101 FOR RFX]
D1	TFE or equiv. per MIL-P-19468A
D2	PBT Polyester, 30% glass reinforced MIL-P-46161 Grade A Class 3
D3	Diallyl Phthalate, MIL-M-14F, Type SDG
D4	Durez® 16274 Phenolic
D5	Polystyrene
D6	Copolymer of Styrene, Type E-2 per MIL-P-77C
D7	KEL-F® per MIL-P55028B
D8	Cross Linked Polystyrene
D9	PTFE per ASTM-D-1457
D10	Nylon
D11	Glass Pressure Seal
D12	Noryl® GFN2 20% glass filled
D13	PBT Thermoplastic 20% glass filled to UL 94 VO
D14	Polypropylene
D15	20% glass filled Polycarbonate/Polypropylene
D16	Noryl® GFN2 20% glass filled/Polypropylene
D17	White Valox® Housing, White Noryl® Insulator
D18	Air/Glass Bead
D19	Noryl® GFN2 SE1/Noryl® HS2000
D20	Black Valox® Housing, White Noryl® Insulator
D21	Polycarbonate MAK-OLON 2800
D22	Noryl® SE-100-80283

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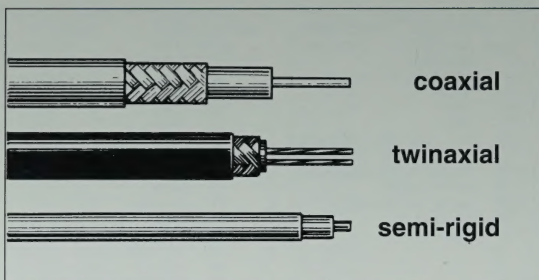
▲ the Amphenol Standard RF product pages of this catalog indicate the appropriate codes for a given Amphenol Standard RF connector. See this page for the Amphenol Standard RF connector references. **For RFX connector references, see page 101.**

‡ Items in parentheses as applicable to given part.

plating reference<sup>▲</sup>

PLT. CODE	BODY‡ [SEE PAGE 101 FOR RFX]	CONTACT‡
P1	Astroplate® [Bright Nickel]	Silver
P2	Astroplate®	Gold
P3	Astroplate®	Astroplate®
P4	Nickel over Copper	—
P5	Nickel	—
P6	Silver	Gold
P7	Silver	Silver
P8	B1 = Gold; B2 = Astroplate®	Gold
P9	B1 = Gold; B2 = Nickel	Gold
P10	Passivated Stainless Steel	Gold
P11	No Plt./Plastic	Silver
P12	Astroplate®/Nickel	Tin-Lead
P13	Tin-Lead	Gold
P14	Nickel	Contact = Gold
P15	—	Terminals = Silver
P16	—	Legs = Tin-Lead
P17	Gold over Copper	Astroplate® & Tin Dip
P18	Gold over Copper	Hot Tin Dip
P19	Gold over Nickel	Gold over Copper
P20	Body Gold over Copper; Passivated Nut	Gold over Nickel
P21	Body Gold over Nickel; Passivated Nut	Gold over Nickel
P22	Body & Nut = Passivated	Gold over Copper
P23	Body & Nut = Passivated	Gold over Nickel
P24	Gold over Copper	—
P25	Body Gold over Copper; Passivated Nut	—
P26	Astroplate®	Gold over Nickel
P27	Body Gold Plated over Nickel; Cube & Legs = Tin-Lead	Gold over Nickel
P28	Nickel per QQ-N-290	Gold over Copper
P29	Body & Nut = Passivated	Gold over Nickel
P30	Hood = Nickel over Copper	—
P31	Passivated	Gold over Copper
P32	Nickel over Copper	Gold over Nickel
P33	Body = Gold over Nickel w/Solder Dipped Legs	Gold over Nickel
P34	Body = Gold over Copper Cpl Nut = Passivated	Gold over Copper
P35	Adj Nut = Nickel over Copper	—
P36	Body & Nut = Passivated	—
P37	Body Gold over Copper; Passivated Nut	Gold over Nickel over Copper
P38	Gold over Copper	Gold over Copper
P39	Body = Gold over Copper Nut = Nickel	Gold over Copper
P40	Nickel over Copper	Center Cont = Gold over Nickel
P41	Nickel over Copper	Outer Cont = Nickel over Copper
P42	Gold over Nickel	Ctr & Outer Cont = Gold over Nickel
P43	B1 = Passivated; B2 = Nickel; B3 = Gold over Copper	C1 = Gold over Nickel
P44	N1 = Passivated; N2 = Gold over Nickel; B1 = Passivated; B2 = Nickel; B3 = Gold over Copper (Nut = Passivated)	C2 = Gold
P45	B1 = Passivated; B2 = Gold; B3 = Gold over Copper Nut = Gold over Nickel	C1 = Gold over Nickel
P46	B1 = Passivated; B2 = Gold over Copper	C2 = Gold
P47	B1 = Passivated; B2 = Gold over Nickel; B3 = Gold over Copper; Nut = Passivated	C1 & 2 = Gold
P48	B1 = Gold; B2 = Gold over Nickel; B3 = Gold over Copper; N1 & 2 = Passivated	C1 = Gold
P49	B1 = Nickel over Copper; B2 = Gold over Copper; N1 = Nickel over Copper; N2 = Gold over Copper	C2 = Gold over Nickel
P50	B1 = Nickel over Copper; B2 = Gold over Copper Nut = Nickel over Copper	C1 & 2 = Gold over Nickel over Copper
P51	B1 = Nickel over Copper; B2 = Gold over Copper (N1 = Nickel over Copper) (N2 = Gold over Copper)	C1 = Gold over Nickel over Copper
P52	B1 & 2 = Nickel over Copper; B3 = Gold over Copper (N1 = Nickel over Copper) (N2 = Gold over Copper)	C2 = Gold over Copper
P53	Nickel over Copper	C1 & 2 = Gold over Copper
P54	Nickel over Copper	Gold over Nickel over Copper (Ground Tab = Silver)
P55	—	Gold over Copper (Tin Plated Terminals)
P56	Astroplate®	Silver
		Contact. = Gold over Copper
		Ground Tab = Silver

# cable to connector index\*



## How to use this index

For a given cable we show the available connectors alphabetically in series order. Within each series, we show the connector configurations: plug, angle plug, jack, panel jack, bulkhead jack. Then we show the cable attachment types: clamp, crimp, solder and others (see page 17 and the assembly instruction pages for an explanation of the various attachment types). Next, we show the part number and the page of the catalog where additional details (dimensions, plating, mounting features) can be found. In addition, see page 8 for the connector assembly index by part number.

Note also that we have shown Plenum cables separately on pages 13 and 14. In the event you have a cable not shown in this index or you do not see the connector you want under a given cable listing, please contact the factory. Chances are we already have a connector design available. If not, we will work with you to meet your need.

CONN. TYPE	CONNECTOR CONFIGURATION	CABLE ATTACHMENT OUTER - INNER	MILITARY NUMBER	AMPHENOL NUMBER	PAGE NO.
<b>RG-58, 141, M17/28-RG58 (50Ω, 1GHz)</b>					
BNC	Plug	Clamp-Solder	UG-88C	31-202	46
BNC	Plug	Crimp-Crimp	M23329/3-01.3-03	31-320	46
BNC	Plug	Crimp-Crimp	M39012/16-0013	31-4320	46
BNC	Plug	SURETWIN		31-5137	46
BNC	Angle Plug	Clamp-Solder	UG-913	31-204	47
BNC	Angle Plug	Clamp-Crimp		31-335	47
BNC	Angle Plug	SURETWIN		31-5153	47
BNC	Jack	Clamp-Solder	UG-89B	31-205	48
BNC	Jack	Crimp-Crimp		36800	48
BNC	Jack	SURETWIN		31-5139	48
BNC	Blkhd. Jack	Clamp-Solder	UG-909	31-206	48
BNC	Blkhd. Jack	Crimp-Crimp	M23329/3-15.3-17	31-342	48
N	Plug	Crimp-Crimp		82-5375	34
N	Plug	Clamp-Solder	UG-536B	34025	34
N	Angle Plug	Crimp-Crimp		82-5379	34
N	Angle Plug	Clamp-Solder		18750	34
N	Jack	Clamp-Solder		35025	34
N	Bulkh. Jack	Crimp-Crimp		82-5378	35
TNC	Plug	Clamp-Solder		79875	60
TNC	Plug	Crimp-Crimp	M23329/4-01.4-03	31-2367	60
TNC	Plug	SURETWIN		31-5245	60
TNC	Angle Plug	Clamp-Solder		79075	60
TNC	Angle Plug	Crimp-Crimp		31-2382	60
TNC	Angle Plug	SURETWIN		31-5242	60
TNC	Jack	Crimp-Crimp	M23329/4-07.4-09	31-2374	61
TNC	Bulkh. Jack	Crimp-Crimp	M23329/4-13.4-15	31-2389	61
UHF	Plug	FCP-Pliers		83-58FCP	31
UHF	Hood	Solder-Solder	UG-177	83-765	30
To use the following UHF connectors on RG-58, purchase Reducing Adapter 83-185:					
UHF	Plug	Solder-Solder	PL-259	83-1SP-1050	30
UHF	Plug	Solder-Solder	PL-259 (TFE)	83-822	30
UHF	Plug	Solder-Solder	Push-on	83-5SP	30
mini-UHF	Plug	Crimp-Crimp		81-115	64
mini-UHF	Jack	Crimp-Crimp		81-116	64
<b>RG-59, M17/29-RG59 (75Ω, 1GHz); RG-62 (93Ω, 1GHz)</b>					
BNC	Plug	Clamp-Solder	UG-260B	31-212	46
BNC	Plug	QUICKTRIM		31-4541	46
BNC	Plug	Crimp-Crimp	(20 GACC)	68175-1005	46
BNC	Plug	Crimp-Crimp	M23329/3-05	31-321	46
BNC	Plug	Crimp-Crimp	M39012/16-0015	31-4321	46
BNC	Plug	SURETWIN		31-5136	46
BNC	Angle Plug	Clamp-Solder	(Cubic Body)	8575	47
BNC	Angle Plug	Clamp-Solder	(Miter Body)	86225	47
BNC	Angle Plug	Crimp-Crimp		31-336	47
BNC	Angle Plug	SURETWIN		31-5154	47
BNC	Jack	Clamp-Solder	UG-261B	31-215	48
BNC	Jack	Crimp-Crimp		68150	48
BNC	Jack	Crimp-Crimp	(20 GACC)	68150-1002	48
BNC	Jack	SURETWIN		31-5138	48
BNC	Blkhd. Jack	Clamp-Solder	UG-910	31-207	48
BNC	Blkhd. Jack	Crimp-Crimp	M23329/3-19	31-343	48
75ΩBNC-T1	Plug	Crimp-Crimp	(RG-59 only)	31-70008	56
75ΩBNC-T2	Plug	Crimp-Crimp		31-71008	56
75ΩBNC-T2	Plug	Clamp-Solder		31-71003	56
75ΩBNC-T1	Plug	Crimp-Crimp	(20 GACC, RG-59 only)	31-70008-1000	56
75ΩBNC-T2	Plug	Crimp-Crimp	(20 GACC)	31-71008-1000	56
75ΩBNC-T2	Angle Plug	Crimp-Crimp	(RG-59 only)	31-70010	56
75ΩBNC-T2	Angle Plug	Crimp-Crimp	(RG-59 only)	31-71010	56
75ΩBNC-T1	Jack	Crimp-Crimp	(RG-59 only)	31-70009	57
75ΩBNC-T2	Jack	Crimp-Crimp	(RG-59 only)	31-71009	57
75ΩBNC-T1	Panel Jack	Crimp-Crimp	(RG-59 only)	31-70012	57
75ΩBNC-T1	Bulkh. Jack	Crimp-Crimp	(RG-59 only)	31-70011	57
75ΩBNC-T2	Bulkh. Jack	Crimp-Crimp	(RG-59 only)	31-71011	57
N	Plug	Clamp-Solder	UG-603A	34525	34
N	Jack	Clamp-Solder	UG-602	36500	34
TNC	Plug	Clamp-Solder		79525	60
TNC	Plug	QUICKTRIM		31-5061	60
TNC	Plug	Crimp-Crimp	M23329/4-05	31-2368	60

CONN. TYPE	CONNECTOR CONFIGURATION	CABLE ATTACHMENT OUTER - INNER	MILITARY NUMBER	AMPHENOL NUMBER	PAGE NO.
<b>RG-6 Type (75Ω, 3GHz, .295 max. O.D.)</b>					
75ΩBNC-T1	Plug	Crimp-Crimp		31-70000	56
75ΩBNC-T2	Plug	Crimp-Crimp		31-71000	56
<b>RG-8, 9, 144, 165, 213, 214, 216, 225, 393, M17/74-RG213 (50Ω)</b>					
N	Plug	Crimp-Crimp	M39012/01-0501	82-4425	34
N	Plug	Crimp-Crimp	M39012/01B0007	82-340	34
N	Plug	Clamp-Solder	UG-21D	82-202	34
N	Plug	Crimp-Crimp	M39012/05-0501	82-4440	34
N	Angle Plug	Clamp-Solder		82-835	34
N	Jack	Clamp-Solder	UG-23B	82-63	35
N	Panel Jack	Clamp-Solder	UG-22B	82-62	35
N	Blkhd. Jack	Clamp-Solder	UG-160A	82-67	35
UHF	Plug	Solder-Solder	PL-259	83-1SP-1050	30
UHF	Plug	Solder-Solder	PL-259 (TFE)	83-822	30
UHF	Plug	Solder-Solder	Push-on	83-5SP	30
UHF	Hood	Solder-Solder	UG-106	83-1H	31
<b>RG-11 (75Ω, 100 MHz), M17/8-RG11 (75Ω, 1GHz)</b>					
75ΩBNC-T2	Plug	Clamp-Solder		6775-75	56
N	Plug	Crimp-Crimp	M39012/01B0013	82-342	34
<b>RG-55 (see RG-142)</b>					

\* for Cable to RFX Commercial Connector Index, see page 119.



## cable to connector index continued\*

CONN. TYPE	CONNECTOR CONFIGURATION	CABLE ATTACHMENT OUTER - INNER	AMPHENOL NUMBER	PAGE NO.
<b>RG-59, M17/29-RG59 (75Ω, 1GHz); RG-62 (93Ω, 1GHz) continued</b>				
TNC	Plug	Crimp-Crimp (for AWG 20 Ctr. Cond.)	69350-1001	60
TNC	Plug	SURETWIN	31-5243	60
TNC	Angle Plug	Crimp-Crimp	31-2383	60
TNC	Angle Plug	SURETWIN	31-5240	60
TNC	Jack	Crimp-Crimp	M23329/4-11	61
TNC	Bulkh. Jack	Crimp-Crimp	M39012/28-0012	61
75ΩTNC-T2 Plug		Crimp-Crimp	31-71001	56
75ΩTNC-T2 Bulkh. Jack		Crimp-Crimp	31-71002	57

To use the following UHF connectors on RG-59, purchase Reducing Adapter 83-168:

UHF	Plug	Solder-Solder	PL-259	83-1SP-1050	30
UHF	Plug	Solder-Solder	PL-259 (TFE)	83-822	30
UHF	Plug	Solder-Solder	Push-on	83-5SP	30

**RG-108A (78Ω, 10MHz, Twinax)**

Twin-BNC Plug	Clamp-Solder	(Noryl Ins.)	31-224	44
Twin-BNC Plug	Clamp-Solder	(TFE Ins.)	31-2226	44

**RG-142, RG-55, 223, 400, M17/60-RG142 (50Ω)**

BNC	Angle Plug	Clamp-Solder	UG-913	31-204	47
BNC	Jack	Clamp-Solder	UG-89B	31-205	48
BNC	Bulkh. Jack	Clamp-Solder	UG-909	31-206	48
N	Plug	Crimp-Crimp		82-5370	34
N	Angle Plug	Crimp-Crimp		82-5374	34
N	Bulkh. Jack	Crimp-Crimp		82-5373	35
SMA	Plug	Crimp-Solder	Non-Capt. Cont./Gold Plt.	901-9511-1	67
SMA	Plug	Crimp-Solder	Non-Capt. Cont./Passiv. Fin.	901-9511-1SFC	67
SMA	Plug	Crimp-Crimp	Passiv. Fin.	901-9511-1SFC	67
SMA	Plug	Crimp-Solder	Capt. Cont./Gold Plt.	901-9601-1	67
SMA	Plug	Crimp-Solder	Capt. Cont./Passiv. Fin.	901-9601-1SFC	67
SMA	Angle Plug	Crimp-Solder	Gold Plt.	901-9531-1	67
SMA	Angle Plug	Crimp-Solder	Passiv. Fin.	901-9531-1SFC	67
SMA	Jack	Crimp-Solder	Gold Plt.	901-9602-1	68
SMA	Jack	Crimp-Solder	Passiv. Fin.	901-9602-1SFC	68
SMA	Bulkh. Jack	Crimp-Solder	Gold Plt.	901-9610-1	68
SMA	Bulkh. Jack	Crimp-Solder	Passiv. Fin.	901-9610-1SFC	68
TNC	Jack	Crimp-Crimp	M23329/4-08, 4-10	31-2380	61

**RG-174, 188, 316, M17/113-RG316 (50Ω); RG-179, 187 (75Ω)**

BNC	Plug	Crimp-Crimp	(Not used on RG-179/187)	31-315	46
BNC	Plug	Crimp-Crimp	(RG-179, 187 only)	31-242	46
BNC	Bulkh. Jack	Crimp-Crimp	(Not used on RG-179/187)	31-318	48
BNC	Bulkh. Jack	Crimp-Crimp	(RG-179, 187 only)	31-245	48
75ΩBNC-T1 Plug		Crimp-Crimp	(RG-179, 187 only)	31-70013	56
75ΩBNC-T2 Plug		Crimp-Crimp	(RG-179, 187 only)	31-71013	56
75ΩBNC-T1 Angle Plug		Crimp-Crimp	(RG-179, 187 only)	31-70015	56
75ΩBNC-T1 Jack		Crimp-Crimp	(RG-179, 187 only)	31-70014	57
75ΩBNC-T2 Jack		Crimp-Crimp	(RG-179, 187 only)	31-71014	57
75ΩBNC-T1 Panel Jack		Crimp-Crimp	(RG-179, 187 only)	31-70017	57
75ΩBNC-T1 Bulkh. Jack		Crimp-Crimp	(RG-179, 187 only)	31-70016	57
75ΩBNC-T2 Bulkh. Jack		Crimp-Crimp	(RG-179, 187 only)	31-71016	57
SMA	Plug	Crimp-Solder	Capt. Cont./Gold Plt.	901-9601-3	67
SMA	Plug	Crimp-Solder	Capt. Cont./Passiv. Fin.	901-9601-3SFC	67
SMA	Plug	Crimp-Solder	Non-capt. Cont./Gold Plt.	901-9511-3	67
SMA	Plug	Crimp-Solder	Non-capt. Cont./Passiv. Fin.	901-9511-3SFC	67
SMA	Plug	Crimp-Crimp	Passiv. Fin.	901-9511-3SFC	67
SMA	Angle Plug	Crimp-Solder	Gold Plt.	901-9531-3	67
SMA	Angle Plug	Crimp-Solder	Passiv. Fin.	901-9531-3SFC	67
SMA	Jack	Crimp-Solder	Gold Plt.	901-9602-3	68
SMA	Jack	Crimp-Solder	Passiv. Fin.	901-9602-3SFC	68
SMA	Bulkh. Jack	Crimp-Solder	Gold Plt.	901-9610-3	68
SMA	Bulkh. Jack	Crimp-Solder	Passiv. Fin.	901-9610-3SFC	68
SMB	Plug	Crimp-Solder	Gold Plt.	903-285P-51S	80
SMB	Plug	Crimp-Solder	Nickel Plt.	903-370P-51S	80
SMB	Angle Plug	Crimp-Solder	Gold Plt.	903-289P-51A	80

CONN. TYPE	CONNECTOR CONFIGURATION	CABLE ATTACHMENT OUTER - INNER	AMPHENOL NUMBER	PAGE NO.
RG-174, 188, 316, M17/113-RG316 (50Ω); RG-179, 187 (75Ω) cont'd.				
SMB	Angle Plug	Crimp-Solder	Nickel Plt.	903-367P-51A 80
SMB	Low Prof. Angl. Plug	Crimp-Solder	Nickel Plt.	903-429P-51A 80
SMB	Bulkh. Jack	Crimp-Solder	Gold Plt.	903-297J-51S 80
SMB	Angl. Bulkh. Jack	Crimp-Solder	Gold Plt.	903-422J-51A 80
75ΩSMB	Bulkh. Jack	Crimp-Solder	Gold Plt. (RG-179 only)	903-108J-71S 83
SMC	Plug	Crimp-Solder	Gold Plt.	903-284P-52S 84
SMC	Plug	Crimp-Solder	Nickel Plt.	903-284P-52S1 84
SMC	Angle Plug	Crimp-Solder	Gold Plt.	903-288P-52A 84
TNC	Bulkh. Jack	Crimp-Crimp		31-2318 61

**RG-178, 196, M17/119-RG174 (50Ω, 3GHz)**

SMB	Plug	Crimp-Solder	Gold Plt.	903-287P-51S	80
SMB	Plug	Crimp-Solder	Nickel Plt.	903-371P-51S	80
SMB	Angle Plug	Crimp-Solder	Gold Plt.	903-291P-51A	80
SMB	Angle Plug	Crimp-Solder	Nickel Plt.	903-368P-51A	80

**Double Braid RG-179 (75Ω), ATT 19224-L2**

75ΩBNC-T1 Plug	Crimp-Crimp		31-70013-1000	56
75ΩBNC-T2 Plug	Crimp-Crimp		31-71013-1000	56
75ΩBNC-T1 Angle Plug	Crimp-Crimp		31-70015-1000	56
75ΩBNC-T1 Bulkh. Jack	Crimp-Crimp		31-70016-1000	57

**RG-180, 195 (95Ω, 3GHz)**

75ΩSMB	Plug	Crimp-Solder		903-152P-71S	83
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**Double Braid RG-316 (50Ω, 11GHz, FEP Jacket; for TFE Jacket use Dbl. Br. RG-188; for PFA Jacket use Dbl. Br. RG-188A)**

BNC	Plug	Crimp-Crimp		31-315-1005	46
SMA	Plug	Crimp-Solder	Non-Capt. Cont./Gold Plt.	901-9511-12SFC	67
SMA	Plug	Crimp-Crimp	Non-Capt. Cont./Passiv. Fin.	901-9511-12SFC	67
SMA	Angle Plug	Crimp-Solder	Gold Plt.	901-9531-12	67
SMA	Angle Plug	Crimp-Solder	Passiv. Fin.	901-9531-12SFC	67
SMA	Bulkh. Jack	Crimp-Solder	Passiv. Fin.	901-9610-12SFC	68
SMB	Angle Plug	Crimp-Solder	Nickel Plt.	901-369P-51A	80
SMB	Bulkh. Jack	Crimp-Solder	Gold Plt.	901-411J-51S1	80
SMC	Angle Plug	Crimp-Solder	Nickel Plt.	901-362P-52A1	84

**RG-402/U [M17/130 0.141" (3.6mm) Semi-Rigid 50Ω, 20GHz]**

SMA	Plug	Solder-Solder	(Phase Adj.)	901-509	74
SMA	Plug	Comp. Crimp	Passiv. Fin.	901-606	66
SMA	Plug	Comp. Crimp	M39012/92-3201	901-606-11	66
SMA	Plug	Comp. Crimp	M39012/92-3301	901-606-51	66
SMA	Plug	Comp. Crimp	Passiv. Fin.	901-614	66
SMA	Plug	Comp. Crimp	M39012/79-3208	901-614-11	66
SMA	Plug	Comp. Crimp	M39012/79-3308	901-614-51	66
SMA	Plug	Solder-No Ctr. Cont.	Gold Plt.	901-9201-1A	66
SMA	Plug	Solder-No Ctr. Cont.	Passiv. Fin.	901-9201-1ASF	66
SMA	Plug	Solder-Press Fit	Passiv. Nut	901-9808	66
SMA	Angle Plug	Solder-Solder	Gold Plt.	901-9221-1A	66
SMA	Angle Plug	Solder-Solder	Passiv. Fin.	901-9221-1ASF	66
SMA	Jack	Solder-Solder	Gold Plt.	901-9202-1A	68
SMA	Bulkh. Jack	Solder-Solder	Gold Plt.	901-9210-1	68

**RG-405/U [M17/133 0.086" (2.2mm) Semi-Rigid 50Ω, 20GHz]**

SMA	Plug	Solder-Solder	(Phase Adj.)	901-510	74
SMA	Plug	Comp. Crimp	Passiv. Fin.	901-613	66
SMA	Plug	Comp. Crimp	M39012/79-3207	901-613-11	66
SMA	Plug	Comp. Crimp	M39012/79-3307	901-613-51	66
SMA	Plug	Solder-Solder	M39012/79-3207	901-9201-2A	66
SMA	Plug	Solder-Press Fit	Passiv. Nut	901-9723	66
SMA	Angle Plug	Solder-Solder	Gold Plt.	901-9221-2A	66
SMA	Angle Plug	Solder-Solder	Passiv. Fin.	901-9221-2ASF	66
SMA	Bulkh. Jack	Solder-Solder	Gold Plt.	901-9210-2	68

\* for Cable to RFX Commercial Connector Index, see page 119.

## Belden cables





CONN. TYPE	CONNECTOR CONFIGURATION	CABLE ATTACHMENT OUTER - INNER	AMPHENOL NUMBER	PAGE NO.
<b>Belden 1151A (75Ω, 1 GHz, RG-59 Type, TFE Jacket, .230 O.D., AWG 20)</b>				
75Ω BNC-T2	Plug	Crimp-Crimp 20 AWG Ctr. Cond.	31-71008-1000	56
<b>Belden 8213 (75Ω, 1 GHz, RG-11 Type, .405 O.D., AWG 14)</b>				
BNC	Plug	Crimp-Crimp	31-4411	46
<b>Belden 8218 (75Ω, 1 GHz, Broadcast Cable, .150 O.D., AWG 27)</b>				
BNC	Plug	Crimp-Crimp	31-325	46
BNC	Plug	Clamp-Solder UG-1033	84975	46
75Ω BNC-T2	Plug	Crimp-Crimp	31-71033	56
<b>Belden 8227 (100Ω, 500 MHz, .325 O.D., AWG 20, Twinax)</b>				
TWIN	Plug-K90°	Clamp-Solder	82-5589	39
TWIN	Plug-K90°	Crimp-Crimp	82-5589-CC	39
TWIN	Plug-K90°	Clamp-Solder (Insulated)	82-GB635-CR	39
TWIN	Jack-K90°	Clamp-Solder	82-5591	39
<b>Belden 8281 (75Ω, 1 GHz, Prec. Video, Dbl. Braid, .305 O.D., AWG 20)</b>				
BNC	Plug	Crimp-Crimp	31-321-1000	46
BNC	Plug	SURETWIST®	31-5151	46
75Ω BNC-T2	Plug	Crimp-Crimp	31-71032	56
BNC	Angle Plug	SURETWIST®	31-5155	47
BNC	Jack	SURETWIST®	31-5152	48
TNC	Plug	SURETWIST®	31-5244	60
TNC	Angle Plug	SURETWIST®	31-5241	60
<b>Belden 9207 (100Ω, 1 GHz, .330 O.D., AWG 20, Twinax)</b>				
TWIN	Plug-K90°	Clamp-Solder	82-5589	39
TWIN	Plug-K90°	Crimp-Crimp	82-5589-CC	39
TWIN	Plug-K90°	Clamp-Solder (Insulated)	82-GB635-CR	39
TWIN	Jack-K90°	Clamp-Solder	82-5591	39
<b>Belden 9231 (75Ω, 1 GHz, Prec. Video, Dbl. Braid, .304 O.D.)</b>				
75Ω BNC-T1	Plug	Crimp-Crimp	31-70022	56
75Ω BNC-T1	Angle Plug	Crimp-Crimp	31-70027	56
<b>Belden 9248 (75Ω, 1 GHz, RG-6 Type, .275 O.D., AWG 18)</b>				
75Ω BNC-T1	Plug	Crimp-Crimp	31-70000	56
75Ω BNC-T2	Plug	Crimp-Crimp	31-71000	56
<b>Belden 9258 (50Ω, 1 GHz, Mini-RG-8X Type, .242 O.D., AWG 16)</b>				
mini-UHF	Plug	Crimp-Crimp	81-114	64
mini-UHF	Jack	Crimp-Crimp	81-117	64
TNC	Plug	Crimp-Crimp	31-5634	60
<b>Belden 9259 (75Ω, 1 GHz, Video RG-59 Type, .242 O.D., AWG 22)</b>				
BNC	Plug	Crimp-Crimp	68175-1003	46
75Ω BNC-T2	Plug	Crimp-Crimp	31-71008-1000	56
<b>Belden 9268 (93Ω, 1 GHz, RG-62A Type, .260 O.D., AWG 22)</b>				
BNC	Plug	QUICKTRIM®	31-4542	46
TNC	Plug	QUICKTRIM®	31-5062	60




CONN. TYPE	CONNECTOR CONFIGURATION	CABLE ATTACHMENT OUTER - INNER	AMPHENOL NUMBER	PAGE NO.
<b>Belden 9880 (50Ω, 1 GHz, Ethernet®, PVC Jacket, .405 O.D., AWG 12)</b>				
N	Plug	Crimp-Crimp Gold Plt. Cont.	82-4426-1001	34
<b>Belden 9907 (50Ω, 1 GHz, Thinnest, .182 O.D., AWG 20)</b>				
BNC	Plug	Crimp-Crimp	31-320-1006	46
<b>Belden 9913 (50Ω, 1 GHz, Low Loss, with Drain Wire, .405 O.D., AWG 9.5)</b>				
N	Plug	Clamp-Solder	82-202-1006	34
<b>Belden 88240 (53.5Ω, 1 GHz, PL-58 Type, .161 O.D., AWG 20)</b>				
BNC	Plug	Crimp-Crimp	36650-1003	46
<b>Belden 88281 (75Ω, 1GHz, PL-Prec. Video, TFE Jkt, .274 O.D., AWG 20)</b>				
BNC	Plug	Crimp-Crimp	31-321-1000	46
BNC	Plug	SURETWIST®	31-5151	46
75Ω BNC-T2	Plug	Crimp-Crimp	31-71032	56
<b>Belden 89108 (75Ω, 1GHz, PL-59 Type, TFE Jacket, .212 O.D., AWG 20)</b>				
BNC	Plug	Crimp-Crimp	68175-1011	46
BNC	Plug	SURETWIST®	31-5369	46
BNC	Bulkh. Jack	Crimp-Crimp	31-343-1002	48
75Ω BNC-T2	Plug	Crimp-Crimp	31-71035	56
<b>Belden 89207 (100Ω, 1 GHz, TFE Jacket, .267 O.D., AWG 20, PL-Twinax)</b>				
TWIN	Plug-K90°	Clamp-Solder (IBM 7362064)	82-5749	39
TWIN	Plug-K90°	Crimp-Crimp	82-5589-CC	39
<b>Belden 89259 (75Ω, 1 GHz, PL-59 Type, TFE Jacket, .193 O.D., AWG 22)</b>				
<b>Belden 86262 (93Ω, 1 GHz, PL-62 Type, TFE Jacket, .204 O.D., AWG 22)</b>				
<b>Belden 89269 (93Ω, 1 GHz, PL-62A Type, TFE Jacket, .204 O.D., AWG 22)</b>				
BNC	Plug	Crimp-Crimp	68175-1011	46
BNC	Plug	QUICKTRIM®	31-5060	46
BNC	Plug	SURETWIST®	31-5369	46
BNC	Jack	SURETWIST®	31-5370	48
75Ω BNC-T2	Plug	Crimp-Crimp	31-71008-2000	56
TNC	Plug	QUICKTRIM®	31-5108	60
TNC	Plug	SURETWIST®	31-5371	60
<b>Belden 89292 (75Ω, 1GHz, PL-11 Type, .348 O.D., AWG 14)</b>				
75Ω BNC-T2	Plug	Crimp-Crimp	31-71034	56
<b>Belden 89555 (75Ω, 1GHz, Dual PL-59 Type, TFE Jacket, .212 X .424 O.D., AWG 23)</b>				
BNC	Plug	Crimp-Crimp	68175-1011	46
BNC	Plug	SURETWIST®	31-5369	46
75Ω BNC-T2	Plug	Crimp-Crimp	31-71008-2000	56
TNC	Plug	QUICKTRIM®	31-5108	60
TNC	Plug	SURETWIST®	31-5371	60
<b>Belden 89880 (50Ω, 1 GHz, PL-Ethernet®, FEP Jacket, .375 O.D., AWG 12)</b>				
N	Plug	Crimp-Crimp Gold Plt. Cont.	82-4426-1001	34
<b>Belden 89907 (50Ω, 1GHz, PL-Thinnest, FLCP Jkt, .167 O.D., AWG 20)</b>				
BNC	Plug	Crimp-Crimp	31-320-1006	46






Ethernet® = Xerox Trademark



## RF connectors for plenum cables\*

Plenum Cable Information			Connector Information								
Dims.		Cable Number	Cable Imp.	Type	Config.	Cable Attachment		Conn. Imp.	Amphenol Number	Crimp Tool	Page No.
						Outer	Inner				
	OD .226-232 DOD .170 CC .040	RG-6 Plenum Belden 82248 (FLMR) 89120 (TFE), 87120 (FLCP), 89248 (TFE), Times PLF-6 (FEP)	75Ω	75Ω BNC-T1	Plug	Crimp	Crimp	75Ω	31-70000	227-944 w/ 227-980-3	56
				75Ω BNC-T2	Plug	Crimp	Crimp	75Ω	31-71000	CTL-2	56
								31-71000-RFX		102	
				BNC	Plug (2 pc)	Crimp	Press fit*	50Ω	31-5558-RFX	CTL-2	102
	OD .348 DOD .280 CC .064	RG-11 Plenum Belden 87292 (FLCP), 89292 (TFE)	75Ω	75Ω BNC-T2	Plug	Crimp	Crimp	75Ω	31-71034	CTL-3	56
	OD .161 DOD .109 CC .032	RG-58 Plenum Belden 82240 (FLMR), 88240 (TFE)	50Ω	BNC	Plug	Crimp	Crimp	50Ω	36650-1003	CTL-1	46
				BNC	Plug	Crimp	Crimp	50Ω	36650-3RFX	CTL-1	102
				BNC	Plug (2 pc)	Crimp	Press fit*	50Ω	31-5559-RFX	CTL-2	102
	OD .167 DOD .102 CC .037	Thinnet Plenum (IEEE 802.3 10 Base 2) Belden 89907 (FLCP)	50Ω	BNC	Plug	Crimp	Crimp	50Ω	31-320-1006	CTL-1	46



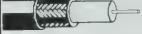


	OD .193-212 DOD .135 CC .023-.030	RG-59 Plenum 87241 (FLCP), 88241 (TFE), 82241 (FLMR) Belden 82259 (FLMR), 87259 (FLCP), 89259 (TFE)	75Ω	BNC	Plug	Crimp	Crimp	50Ω	<b>68175-1011</b>	CTL-1	46
				BNC	Plug	Clamp	Solder	50Ω	<b>31-5060</b>	-	46
				BNC	Plug	Crimp	Crimp	50Ω	<b>68175-11RFX</b>	CTL-1	102
	OD .204-215 DOD .146 CC .025	RG-62 Plenum IBM cable Spec 4885584 Belden 82262 (FLMR), 86262 (TFE); Gepco 7250 (FEP) Comscope 2020 & 2045; Montrose CBL 5743	93Ω	BNC	Plug (2 pc)	Crimp	Press fit*	50Ω	<b>31-5560-RFX</b>	CTL-2	102
				BNC	Plug	Suretwist*		50Ω	<b>31-5369</b>	-	46
				BNC	Jack	Suretwist*		50Ω	<b>31-5370</b>	-	48
	OD .200-208 DOD .146 CC .025	RG-62A Plenum Belden 82269 (FLMR), 89269 (TFE); Times AA-6074 (FEP)	93Ω	75Ω BNC-T2	Plug	Crimp	Crimp	75Ω	<b>31-71008-2000</b>	CTL-1	56
				TNC	Plug	Clamp	Solder	50Ω	<b>31-5108</b>	-	60
				TNC	Plug	Suretwist*		50Ω	<b>31-5371</b>	-	60

	OD .212 DOD .140 CC .032	RG-59 20GA Plenum Belden 82108 (FLMR), 87108 (FLCP), 89108 (TFE)	75Ω	75Ω BNC-T2	Plug	Crimp	Crimp	75Ω	<b>31-71035</b>	CTL-1	56
				BNC	Plug	Crimp	Crimp	50Ω	<b>68175-1011</b>	CTL-1	46
				BNC	Plug	Crimp	Crimp	50Ω	<b>68175-11RFX</b>	CTL-1	102
				BNC	Plug	Suretwist*		50Ω	<b>31-5369</b>	-	46
				BNC	Bulkh. Jack	Crimp	Crimp	50Ω	<b>31-343-1002</b>	CTL-1	48
	OD .180 DOD .114 CC .025	Mini RG-59 Plenum (TFE)	75Ω	75Ω BNC-T2	Plug	Crimp	Crimp	75Ω	<b>31-71021</b>	CTL-1	56
	OD .230 DOD .140 CC .032	RG-59 Duofoil Plenum Belden 1151A (TFE)	75Ω	75Ω BNC-T2	Plug	Crimp	Crimp	75Ω	<b>31-71008-1000</b>	CTL-1	56
				BNC	Plug	Crimp	Crimp	50Ω	<b>68175-1003</b>	CTL-1	46
				BNC	Plug	Suretwist*		50Ω	<b>31-5136</b>	-	46
				BNC	Plug	Suretwist*		50Ω	<b>31-5136-RFX</b>	-	102
				BNC	Plug	Crimp	Crimp	50Ω	<b>68175-1011</b>	CTL-1	46
				BNC	Plug	Crimp	Crimp	50Ω	<b>68175-11RFX</b>	CTL-1	102
				BNC	Plug (2 pc)	Crimp	Press fit*	50Ω	<b>31-5560-RFX</b>	CTL-2	102
				BNC	Plug	Suretwist*		50Ω	<b>31-5369</b>	-	46
	OD .212x.424 DOD .135 CC .023	Dual RG-59 Plenum Belden 89555 (TFE)	75Ω	75Ω BNC-T2	Plug	Crimp	Crimp	75Ω	<b>31-71008-2000</b>	CTL-1	56
				TNC	Plug	Clamp	Solder	50Ω	<b>31-5108</b>	-	60
				TNC	Plug	Suretwist*		50Ω	<b>31-5371</b>	-	60
	OD .120 DOD .063 CC .012	Dbl. Br. RG-179 (FEP) ATT KS-19224-L2	75Ω	75Ω BNC-T1	Plug	Crimp	Crimp	75Ω	<b>31-70013-1000</b>	227-944 w/ 227-980-2	56
				75Ω BNC-T2	Plug	Crimp	Crimp	75Ω	<b>31-71013-1000</b>	CTL-1	56
				75Ω BNC-T1	Angle Plug	Crimp	Crimp	75Ω	<b>31-70015-1000</b>	227-944 w/ 227-980-7	56
				75Ω BNC-T1	Bulkh. Jack	Crimp	Crimp	75Ω	<b>31-70016-1000</b>	227-944 w/ 227-980-7	57

\* Dimensions shown for commercial grade plenum cables are nominal.

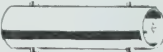

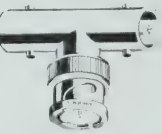


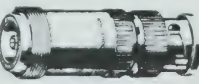
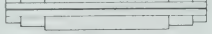
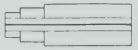

☆ for use with solid center conductor cables only

## RF connectors for plenum cables\* continued

Plenum Cable Information			Connector Information								
Dims.	Cable Number	Cable Imp.	Type	Config.	Cable Attachment		Conn. Imp.	Amphenol Number	Crimp Tool	Page No.	
					Outer	Inner					
	OD .100 DOD .063 CC .012	RG-179 Plenum Belden 83264(FEP)	75Ω	BNC	Plug	Crimp	Crimp	50Ω	31-242	CTL-2	46
				BNC	Plug	Crimp	Crimp	50Ω	31-242-RFX	CTL-2	102
				75Ω BNC-T1	Plug	Crimp	Crimp	75Ω	31-70013	227-944 w/ 227-980-7	56
				75Ω BNC-T2	Plug	Crimp	Crimp	75Ω	31-71013	CTL-2	56
				75Ω BNC-T2	Plug	Crimp	Crimp	75Ω	31-71013-RFX	CTL-2	102
				75Ω BNC-T1	Angle Plug	Crimp	Crimp	75Ω	31-70015	227-944 w 227-980-2	56
				75Ω BNC-T1	Jack	Crimp	Crimp	75Ω	31-70014	227-944 w 227-980-2	57
				75Ω BNC-T2	Jack	Crimp	Crimp	75Ω	31-71014	CTL-2	57
				75Ω BNC-T2	Jack	Crimp	Crimp	75Ω	31-71014-RFX	CTL-2	103
				BNC	Bulkh. Jack	Crimp	Crimp	50Ω	31-245	CTL-2	48
				BNC	Bulkh. Jack	Crimp	Crimp	50Ω	31-245-RFX	CTL-2	103
				75Ω BNC-T1	Bulkh. Jack	Crimp	Crimp	75Ω	31-70016	227-944 w/ 227-980-2	57
				75Ω BNC-T2	Bulkh. Jack	Crimp	Crimp	75Ω	31-71016	CTL-2	57
				75Ω BNC-T2	Bulkh. Jack	Crimp	Crimp	75Ω	31-71016-RFX	CTL-2	103
				75Ω BNC-T1	Panel Jack	Crimp	Crimp	75Ω	31-70017	227-944 w/ 227-980-2	57
				75Ω BNC-T2	Panel Jack	Crimp	Crimp	75Ω	31-71017-RFX	CTL-2	103
				TNC	Plug	Crimp	Crimp	50Ω	31-2242-RFX	CTL-2	109
	OD .274 DOD .188 CC .032	Plenum Precision Video Belden 88281(TFE)	75Ω	BNC	Plug	Crimp	Crimp	50Ω	31-321-1000	CTL-2	46
				75Ω BNC-T2	Plug	Crimp	Crimp	75Ω	31-71032	CTL-1	56
				BNC	Plug	Suretwist*		50Ω	31-5151	-	46
	OD .200 DOD .135 CC .032	Plenum Precision Video Gepco VPM 2000TK (Kynar)	75Ω	BNC	Plug	Crimp	Crimp	50Ω	68175-1011	CTL-1	46
				BNC	Plug	Crimp	Crimp	50Ω	68175-11RFX	CTL-1	102
				75Ω BNC-T2	Plug	Crimp	Crimp	75Ω	31-71035	CTL-1	56
				BNC	Plug	Suretwist*		50Ω	31-5369	-	46
	OD .375 DOD .247 CC .086	Ethernet™ Plenum (IEEE 802.3 10 Base 5) Belden 89880(FEP) Malco 250-4314-0003(FEP) Phalo 036-001-80145(FEP) Times AA-4478(FEP)	50Ω	N	Plug	Crimp	Crimp	50Ω	82-4426-1001	CTL-3	34
				N	Plug	Crimp	Crimp	50Ω	82-4426-11RFX	CTL-3	113
				N	Jack	Crimp	Crimp	50Ω	82-4429-RFX	CTL-3	113
	OD .267 DOD .209 CC .037 2 Cond	Twinax Plenum Belden 89207(TFE)	100Ω	Twin	Plug	Clamp	Solder or Crimp	95Ω	82-5749	Crimp Confs w/ CTL-4	39
				Twin	Plug	Crimp	Crimp	95Ω	82-5589-CC	CTL-4	39

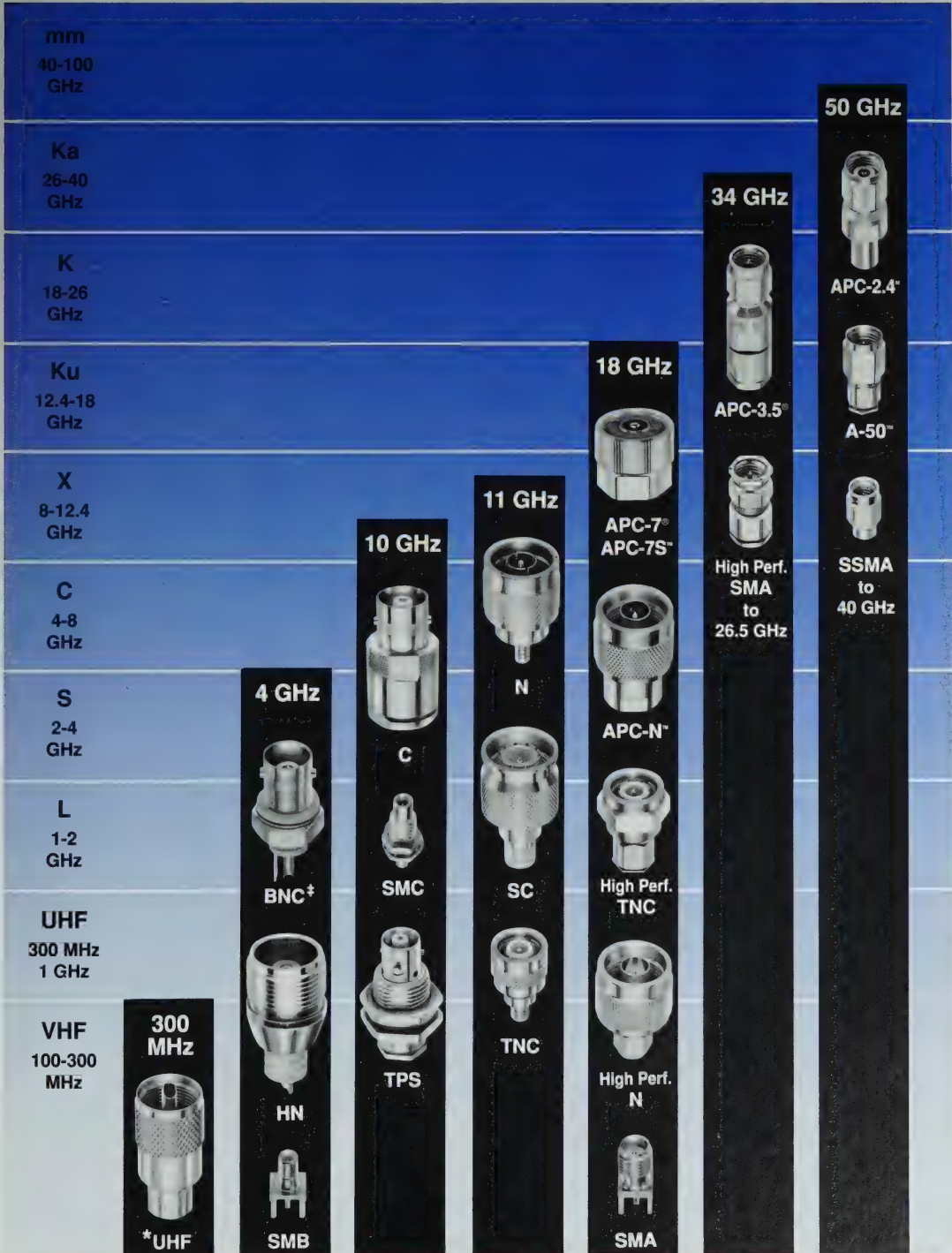
☆ for use with solid center conductor cables only.

## network accessories

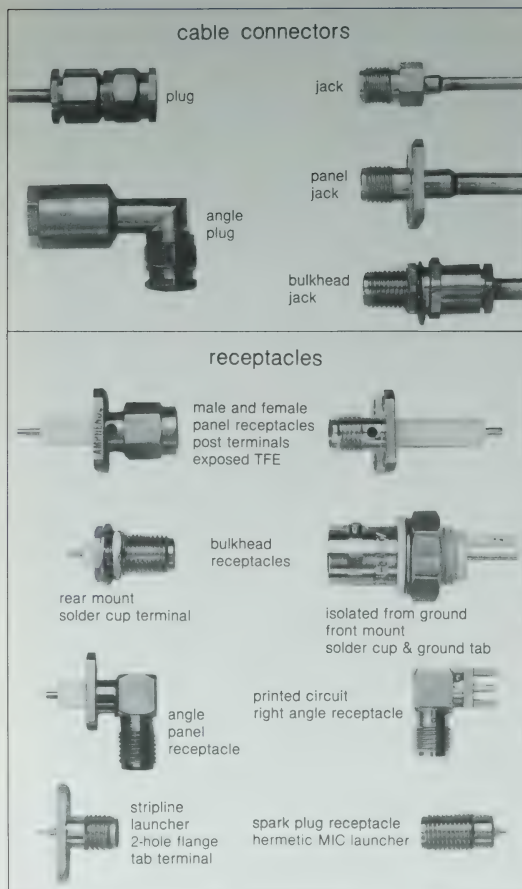
IEEE 802.3 10 base 2	BNC Barrel Adapter Jack-Jack  31-219 (UG-914)	BNC Bulkhead Adapter Jack-Jack  31-220N Max. Panel .181" 31-3220 Max. Panel .181"	BNC Tee Adapter Jack-Plug-Jack  31-208 (UG-274A)	BNC Terminator  46650-51 50Ω 5% 1W 46650-75 75Ω 5% 1W 46650-91 91Ω 5% 1W
IEEE 802.3 10 base 5	Type N Barrel Adapter  82-101 Silver Plated Contact 82-101-1000 Gold Plt. Contact	Between Series Adapter N Jack to BNC Plug (mates N plug to BNC jack)  31-217 (UG-349A)	Type N Boots  31-5010 Boot for cable splice  31-5011 Boot for Terminator	Type N Terminator 49.9Ω, 1% 1Watt  82-5721-1000 Gold Plated Contact



## Amphenol® RF connector frequency range chart

\*TWINAX, TWIN-BNC, TRIAX, TRIAX-C, TRIAX-BNC, TRIAX-TNC, MHV, DM, SURETWIST<sup>™</sup> BNC & TNC<sup>†</sup>75Ω BNC-T1 to 4 GHz, 75Ω BNC-T2 to 1 GHz; MINI-UHF to 2.5 GHz; F Connector to 1 GHz

# RF connector selection guide



**Introduction.** The guidelines provided in this catalog are intended to assist you in rapidly identifying the best connector for your application. With numerous different series and hundreds of connectors from which to choose, it might seem that the selection process would be a formidable task. However, the following considerations will quickly narrow down the options:

**1. Frequency Range.** (see chart, page 15) For example, if you have a system that must perform well in the Ku band, you won't be able to use an inexpensive UHF connector. By the same token, if your system doesn't have to play above 4 GHz, there is no point in paying for a connector that plays to 50 GHz.

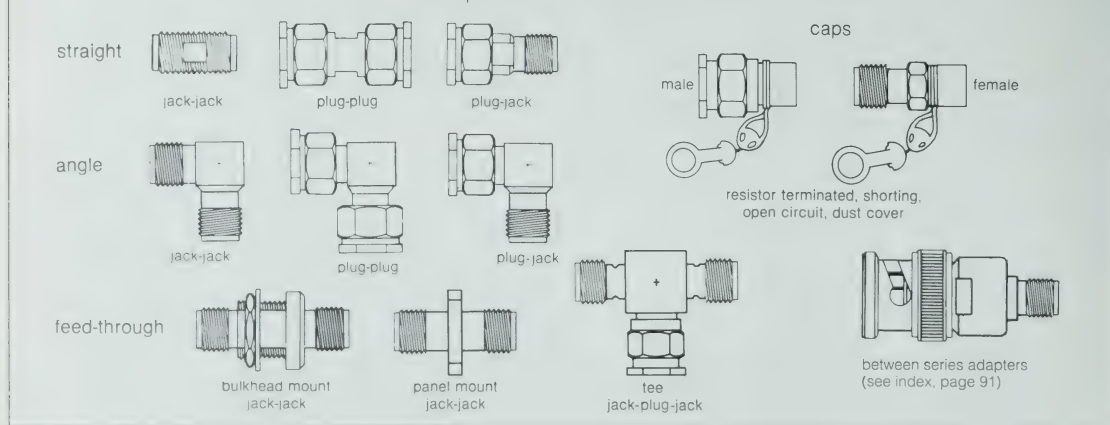
**2. Cable and Impedance.** In many applications, the cable and characteristic impedance of the system will tend to limit your connector options. For this reason we have given you a cable to connector index (see page 10) so that you can start from the cable and review the available connectors.

**3. Coupling Type.** (see illustration at right). The threaded type of coupling tends to give the most reliable performance, especially at frequencies above 4 GHz and in applications where severe vibration is a factor. Below 4 GHz, the key factor often is a need for quick connect/disconnect. Then the bayonet lock is an obvious choice, particularly for video and computer applications. The snap-on type is often used in microwave telephony systems. The sexless coupling is available only in the APC-7 series and between series adapters to APC-7. It is used in test and measurement applications to provide durable, repeatable precision performance.

**4. Other Factors in Series Selection.** Although frequency range, impedance and coupling type quickly point you to one or two series that can meet your need, we believe you will find it useful to review the brief summaries of all the connector lines (pages 18 to 28). This will allow you to compare and contrast a number of other factors including VSWR and voltage rating. For example, Type N and TNC have the same VSWR rating, DC-11 GHz, but Type N has a voltage rating of 1,500V versus 500V for the TNC. Also take note of the RFX™ connector specifications, page 26. These connectors, including BNC, TNC, Twinax, UHF and Mini-UHF, are for use in commercial applications where industrial and military performance are not required.

**5. Cable Attachment.** (see illustrations at right). Once you have identified the series you need, you will want to select the appropriate

## adapters and accessories





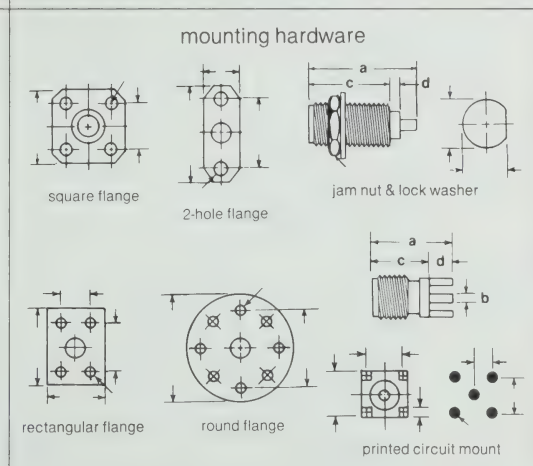
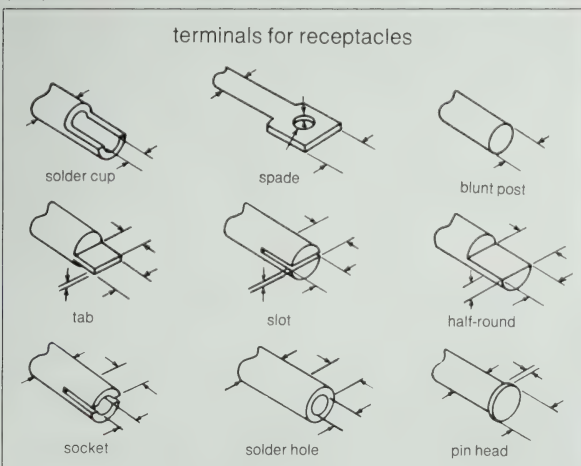
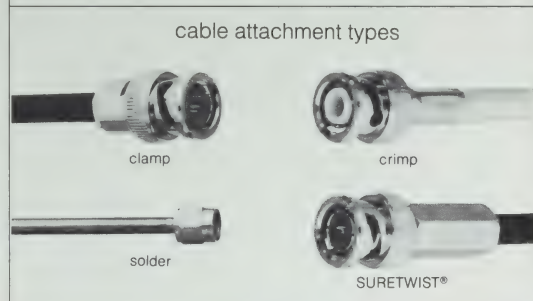
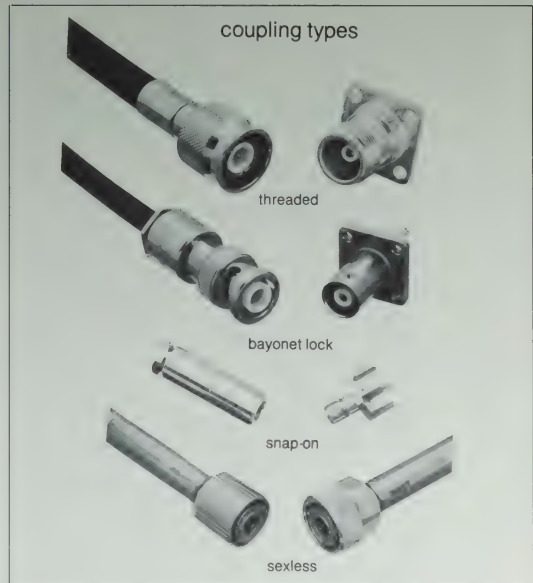
## RF connector selection guide continued

attachment type for your cable connectors. The crimp type is reliable and convenient and very well suited to high volume applications. The clamp type is highly reliable and often is mandated in military, aerospace and nuclear applications. The solder type, particularly for semi-rigid cable, also is mandated in many military applications. The SURETWIST® type is one piece and reusable, thus offering the lowest installed cost. However, it performs well only to 300 MHz. This catalog provides assembly instructions for all cable connectors in it. See Index, page 8.


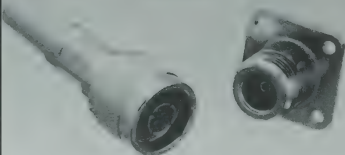

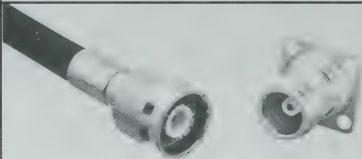


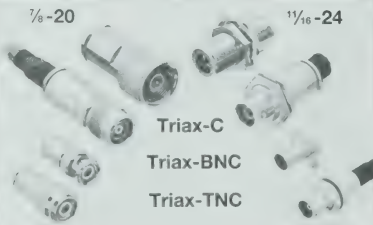
**6. Receptacle Styles.** Perhaps the greatest variety of elements for choice is to be found in the selection of receptacles. The basic configurations are shown at left and the types of terminals and mounting hardware are shown below. Whether you wish flange mount, single-hole bulkhead mount or printed circuit mount and whether your receptacle will be open wired or launched directly to stripline or microstrip, we have a style for your application and packaging needs.

**7. Military vs. Industrial vs. Commercial.** The only hard and fast rule is that military connectors must meet military standards while industrial and commercial connectors must conform to industrial and commercial standards. Beyond that, you still need to identify the best connector for your application. Many military systems are permitted to use non-QPL connectors in order to assure that the system performs to spec. On the other hand, many industrial applications require features available only in military connectors — such as resistance to salt spray or performance while immersed in jet fuel. But certainly if your industrial application doesn't require resistance to salt spray, there is no need to pay for the plating and gasketing of a MIL-Spec connector. By the same token, commercial applications generally do not require performance above 1 to 3 GHz. For these applications, industrial grade connectors may not be needed, and RFX™ commercial connectors (pages 99-119) may be well suited to your need.

**8. The Catalog Pages.** As you examine the pages containing a given series and then turn to the next series, you will find a similar layout of product. This method has been followed for each series: first, straight plugs, then angle plugs, straight jacks, panel jacks, and bulkhead jacks, then panel and bulkhead receptacles, then adapters and accessories. This too, we hope, will aid your selection process. For additional assistance, please contact your local Amphenol RF sales representative or call us at the factory: (203) 743-9272.



## Standard RF/Microwave Connectors

Series	Products	Description
<b>UHF</b> <b>83 Series</b>  Page 30		Amphenol <b>UHF</b> connectors are low cost, general purpose units which operate satisfactorily from DC to 300 MHz. Applications include Citizens Band radio antenna connections to transmitter/receiver; public address systems; and a variety of other low frequency system applications where cost is the primary consideration. Standard 83 Series UHF connectors have .625-24 mating threads. See Miniature 81 Series <b>Mini-UHF</b> connectors for .375-24 threaded coupling and operation to 2.5 GHz. The 83 and 81 Series do not intermate.
<b>N</b>  Page 34		Amphenol <b>Type N</b> connectors are weatherproof, .625-24 threaded-coupling units for use DC to 11 GHz with VSWR of 1.3 max. across this frequency range. Type N connectors are available in clamp, crimp, solder and TAPER CLAMP™ cable affixment designs. The characteristic impedance structure is 50 ohms, with selected configurations available in 75 Ω designs. Applications include IEEE 802.3 Ethernet™ LANs; broadcast, satellite and military communications systems. Also available are designs for operation to 18 GHz on semi-rigid cable.
<b>C</b>  Available, Not Shown		Amphenol <b>Type C</b> connectors are weatherproof 50 ohm units with TFE insulators and two-stud bayonet lock coupling. The standard Type C operates to 11 GHz with a peak 1,500 V rating; also available are 4,000 V peak units operating to 2 GHz. They may be used with 75 ohm cable at lower frequencies (below 300 MHz) where no serious mismatch is introduced by the connector. Principal applications are for relatively large cables requiring frequent connect/disconnect.
<b>SC</b>  Available, Not Shown		Amphenol <b>SC</b> connectors are the screw thread coupling version of the Type C Series. They are designed to meet severe vibration conditions for aircraft avionics and other EW applications requiring a rugged 50 ohm connector that will operate DC-11 GHz.
<b>HN</b>  Available, Not Shown		Amphenol <b>HN</b> connectors are designed for high voltage applications and will withstand a pulsed signal up to 9,000 V peak. These 50 ohm units are weatherproof and operate to 4 GHz with captivated center contacts and clamp type cable affixment.
<b>TWIN</b>  .750-20 Keyed Page 39  Twin-BNC Page 44		Amphenol Twin Contact connectors are used in balanced line, high sensitivity circuits. Three constructions are available: <b>TWINAX</b> with keyway polarization and .750-20 threaded coupling used primarily in System 3X and related computer network applications; <b>Twin-BNC</b> with contact polarization and bayonet lock coupling (additional polarization by way of non-standard locking lug arrangements is also available) for use where quick connect/disconnect is needed with cables such as RG-108A/U; and <b>Twin-UHF</b> (not illustrated) with non-polarized contacts and .625-24 threaded coupling, used to provide inexpensive connections for low frequency balanced line applications.
<b>TRIAx</b>  Available, Not Shown		Amphenol Triax connectors are used in applications where maximum RF shielding and minimum noise radiation are required. The standard <b>TRIAx</b> connectors are used with medium to large size triaxial cables (from .250" to .500" OD); they have an .687-24 threaded coupling for the medium size and a .875-20 coupling for the large size cables. Also available for medium to large size cables are <b>Triax-C</b> connectors with bayonet lock coupling. For miniature triaxial cables, both <b>Triax-BNC</b> and <b>Triax-TNC</b> designs are available for choice of bayonet or threaded coupling. Primarily used in air-frame and shipboard military applications




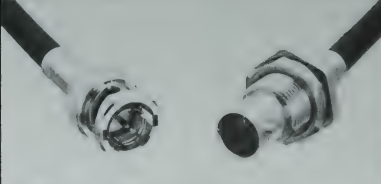
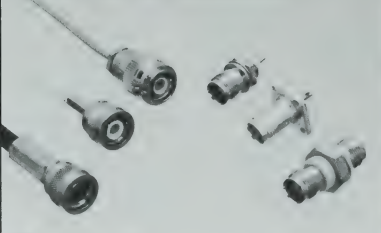




## Standard RF/Microwave Connectors

Impedance	Frequency Range	VSWR	Voltage Rating	Temperature Range	Cable Termination	Coupling Type	Standards	Catalog Pages
Non-constant	0-300 MHz	—	500 V peak	-55° to +149°C (Standard Mica filled phenolic insulator) Temperature range varies with other insulators	U.G. Standard, Clamp Set - Screw, Solderless Clamp, Crimp, Field Clamp (FCP, FCJ)	.625-24 Threaded Coupling	IEC Publication 169-12	<b>UHF 83 Series</b> 30-33 Mini UHF 81 Series: 64-65
50 ohms or 75 ohms as noted	0-11 GHz on flexible cable  0-12.4 or 18 GHz on semi-rigid cable	M39012 Straight Conn: 1.3 max. 0-11 GHz M39012 Right Angle: 1.35 max. 0-11 GHz	1,500 V peak	-65° C to +165° C (Standard TFE Insulators)	Clamp, Crimp, Solder, TAPER-CLAMP™	.625-24 Threaded Coupling	MIL-C-39012 & MIL-A-55339 where applicable  ANSI/IEEE 802.3 ISO/DIS802/3 50Ω, 10 BASE 5	<b>N</b> 34-38
50 ohms	0-10 GHz (1500 V type)  0-2 GHz (4,000 V type)	1.35 max. 0-10 GHz	1,500 V peak (Standard type)  4,000 V peak connectors also available	-65° C to +165° C (Standard TFE Insulators)	Braid Clamp	Two Stud Bayonet Lock	MIL-C-39012 & MIL-A-55339 where applicable	<b>C</b> Δ
50 ohms	0-11 GHz	1.3 max. 0-11 GHz	1,000 V peak	-65°C to +165°C (Standard TFE Insulators)	Crimp-Crimp	.687-24 Threaded Coupling	MIL-C-39012 & MIL-C-3643 where applicable	<b>SC</b> Δ
50 ohms	0-4 GHz	—	7,000 V peak	-55°C to +165°C (Standard TFE Insulators)	Braid Clamp	.750-20 Threaded Coupling	—	<b>HN</b> Δ
95 ohms Nominal  Used with 78, 95 & 100 ohm twin conductor cables	TWINAX and Twin-UHF: 0-200 MHz  Twin-BNC: 0-100 MHz	—	TWINAX and Twin-UHF: 500 V peak  Twin-BNC: 100 V peak	-55°C to +85°C (Standard Copolymer of Styrene Insulators)	TWINAX: Braid Clamp, or Crimp-Crimp  Twin-BNC: Braid Clamp, Crimp-Crimp  Twin-UHF: Braid Clamp	TWINAX: 750-20 Threaded Coupling  Twin-BNC: Bayonet Lock  Twin-UHF: 625-20 Threaded Coupling	MIL-C-3655 where applicable	<b>TWINAX</b> 39-43  <b>Twin-BNC</b> 44-45
Non-Constant Can be used with 50, 75 and 93 ohm triaxial cables	TRIAx: 300 MHz  Triax-C, Triax-BNC & Triax-TNC: 0-500 MHz	—	5,000 V peak with TFE insulators  1,900 V peak with Styrene Insulators	-65°C to +165°C (Standard TFE Insulators)  -55°C to +85°C (Styrene Insulators)	Braid Clamps	TRIAx .687-24 or .875-20 Threaded Coupling  Triax-C & Triax-BNC: Bayonet Lock  Triax-TNC: 437-28 Threaded Coupling	Triax-C & Triax-BNC: designs conform to MIL-C-49142 NQ■	<b>TRIAx</b> Δ

Δ = Available, not shown

■ = Not on QPL

## Miniature RF/Microwave Connectors

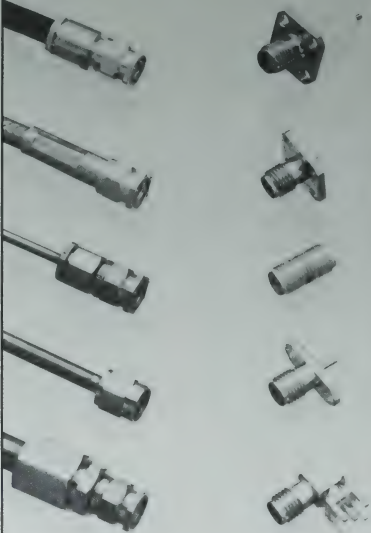

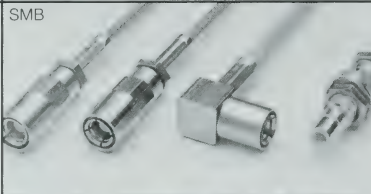


Series	Products	Description
<b>BNC</b>  Page 46		Amphenol <b>BNCs</b> are the world's most popular 50Ω RF connectors and are widely used in computer network and video applications where their quick disconnect bayonet coupling is a key feature. Cable termination styles available include three-piece crimp-crimp, three-piece TAPER CLAMP™, and one-piece SURETWIST®, as well as traditional clamp-solder designs. Useable with low reflection to 4 GHz on 50Ω cables, these BNCs also perform well to 500 MHz on 75Ω cables without significant impedance mismatch. For connectors to terminate miniature twinaxial cable, see <b>Twin-BNC</b> series on page 44.
<b>75 ohm BNC</b>  Page 56		Amphenol <b>75Ω BNCs</b> are available in two types based upon performance requirements. Both types mate with each other and with 50Ω BNCs. Type 1 is designated <b>75Ω BNC-T1</b> and provides constant 75Ω performance with low VSWR to 4.0 GHz. Type 2 is designated <b>75Ω BNC-T2</b> and is useable with low reflection to 1.0 GHz on 75Ω cable. For applications above 1.0 GHz, Type 1 is recommended. Used primarily on 75Ω cables for video and data transmission applications.
<b>TNC</b>  Page 60		Amphenol <b>TNC</b> connectors were originally developed for aircraft and missile applications where extreme vibration is a factor. Sometimes called the threaded version of the BNC, these .437-28 coupling units have constant 50Ω impedance, operating to 11 GHz on flexible cables and 12.4 or 18 GHz on semi-rigid cables. Chosen for their durability and reliability in military and aerospace applications, TNCs are also widely used in 50Ω data transmission networks such as Wangnet™▲. Also available are 75Ω designs for impedance matching to precision video and computer cables.
<b>MHV</b>  Available, Not Shown		Amphenol <b>MHV</b> connectors are miniature high voltage units designed for applications which must withstand a pulsed signal up to 5,000 volts peak. Similar to BNCs in size and bayonet lock coupling, MHVs, however, do not intermate with BNCs. MHV Series operates to 50 MHz with a non-constant impedance structure.
<b>Mini-UHF</b> <b>81 Series</b>  Page 64		Amphenol <b>Mini-UHF</b> connectors are designed for use in cellular mobile telephone systems and other communications applications where size and weight factors are critical. <b>Mini-UHF</b> connectors also provide interconnections for local area network systems (LANS). These .375-24 threaded connectors offer excellent RF performance for applications to 2.5 GHz and the crimp-type cable terminations yield low installation costs.
<b>TPS</b>  Available, Not Shown		Amphenol <b>TPS</b> connectors are miniature three-stud bayonet lock units designed for use in military and commercial communication and surveillance systems where space and weight are primary concerns. Nominal impedance is 50 ohms, with excellent RF performance in applications to 10 GHz. The <b>three-stud</b> design provides quick coupling and minimizes the rocking effect sometimes found in two-stud types.
<b>DM</b>  Available, Not Shown		Amphenol <b>DM</b> Series miniature coaxial connectors have bayonet lock coupling and provide high reliability for interconnections in hostile environments such as jet fuel, other hydrocarbon fuels, lubricants and sea water. They are similar to and meet the fluid immersion requirements of MIL-C-25516 for applications in instrumentation, fluid measurement and data transmission. To prevent accidental mismatching, the Series offers a choice of polarities determined by bayonet lug position and contact sex.



# Miniature RF/Microwave Connectors

Impedance	Frequency Range	VSWR	Voltage Rating	Temperature Range	Cable Termination	Coupling Type	Standards	Catalog Pages
50 ohms Nominal	0-4 GHz with low reflection; usable to 11 GHz on suitable 50Ω cables. Useable to 500 MHz on 75Ω cables.	M39012 Straight Connector: 1.3 max. 0-4 GHz  M39012 Right Angle: 1.35 max. 0-4 GHz	500 V peak	-65° C to +165° C (Standard TFE Insulators)	Clamp, Crimp, Solder, SURETWIST®, TAPER-CLAMP™	Two Stud Bayonet Lock	MIL-C-39012 & MIL-A-55339 where applicable ANSI/IEEE 802.3 ISO/DIS 8802/3 50Ω, 10 BASE 2	<b>BNC</b> 46-55  Twin-BNC 44-45
75 ohms Nominal	Type 1: 0-4.0 GHz  Type 2: 0-1.0 GHz	Type 1: Straight Connectors 1.3 max. 0-4.0 GHz Type 2: Straight Connectors 1.3 max 0-1.0 GHz	500 V peak	-65° C to +165° C (Standard TFE Insulators)	Crimp-Crimp, Clamp	Two Stud Bayonet Lock	ANSI/IEEE 802.4 ISO/DIS8802/4 75Ω, Token Passing	<b>75 ohm BNC</b> 56-59
50 ohms Nominal  75 ohm designs available on request	0-11 GHz on Flexible Cables  0-12.4 or 18 GHz on Semi-Rigid Cable	M39012 Straight Connector: 1.3 max 0-11 GHz  M39012 Right Angle: 1.35 max. 0-11 GHz	500 V peak	-65° C to +165° C (Standard TFE Insulators)	Clamp, Crimp, Solder, SURETWIST®, TAPER-CLAMP™	.437-28 Threaded Coupling	MIL-C-39012 & MIL-A-55339 where applicable	<b>TNC</b> 60-63
Non-constant	0-50 MHz	—	5,000 V peak	-65° C to +165° C (Standard TFE Insulators)	Clamp, Crimp	Two Stud Bayonet Lock	—	<b>MHV</b> Δ
50 ohms Nominal	0-2.5 GHz	1.25 max. 0-2.5 GHz	335 V peak	-55° C to +85° C (Polypropylene Insulators)	Crimp	.375-24 Threaded Coupling	—	<b>Mini-UHF 81 Series</b> 64-65
50 ohms Nominal	0-10 GHz	1.3 max. 0-10 GHz	1,500 V peak	-65° C to +165° C (Standard TFE Insulators)	Clamp, Crimp	Three Stud Bayonet Lock	MIL-C-55235 where applicable	<b>TPS</b> Δ
Non-constant	0-1 GHz	—	1,500 V peak	-65° C to +165° C (Standard TFE Insulators)	Clamp	Polarized by Bayonet Lug position and by contact sex	Similar to MIL-C-25516	<b>DM</b> Δ

Δ = Available, not shown

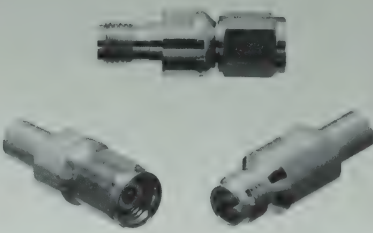

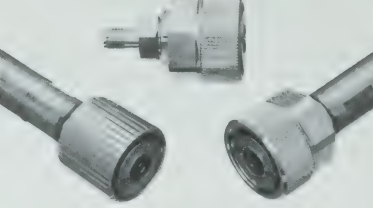
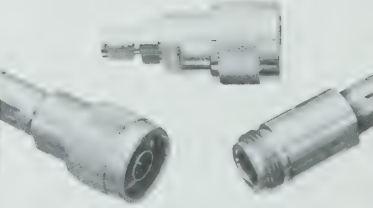
Series	Products	Description
<b>SMA 901 Series</b>       Page 66		<p>Amphenol 901 Series <b>SMA</b> connectors are semi-precision, subminiature, high frequency connectors which offer reliable broadband performance DC to 18 GHz with low reflection and constant 50 ohm impedance. While SMAs are used primarily in military and aerospace applications where trends toward higher frequencies, miniaturization and weight reduction are key design considerations, they have increasingly been chosen for a wide variety of microwave system designs. Among these are SMA receptacles (launchers) used to provide transition to coax from waveguide, from MIC-paks (microwave integrated circuit packages), and from stripline or microstrip on printed circuit boards. Other microwave system components - both active and passive - which use SMAs for interconnections include amplifiers, oscillators, attenuators, detectors, filters, mixers, switches and phase trimmers.</p> <p>Much of the chassis wiring in microwave systems consists of semi-rigid cable ranging in size from .034" dia. to .250" dia. (with occasional use of .325" or .500"). The most popular sizes are .086" and .141" (for which the SMA was originally designed). The cable jacket materials for this "RF plumbing" include aluminum, copper, and stainless steel. Cable affixment methods for SMAs on semi-rigid include direct solder types, compression-clamp and compression-crimp. Flexible cable affixment types include hex crimp, braid clamp, and TAPER-CLAMP™.</p> <p>Also available are high performance SMA designs which can operate mode free to 26.5 GHz with low VSWR.</p>
<b>SSMA 941 Series</b>  Available, Not Shown		<p>Amphenol 901 <b>SSMA</b> connectors are a microminiature version of the SMA. They meet the need for a smaller, higher frequency 50 ohm microwave connector which can operate to 26.5 GHz on suitable flexible cables and to 40 GHz on appropriate semi-rigid cable such as .070" and .086" dia. Designs available include stripline and microstrip launchers as well as hermetics. Primary use is in military-aerospace and high frequency satellite communication applications.</p>
<b>SMB/SMC 903 Series</b>   SMB Page 80   SMC Page 84	<div style="display: flex;"> <div style="flex: 1;">  </div> <div style="flex: 1;">  </div> </div>	<p>Amphenol 903 Series <b>SMB</b> and <b>SMC</b> connectors conform to the requirements of M39012. No QPL items are included at this time. The SMB types feature quick connect/disconnect snap-on mating and are available in 50 ohm and 75 ohm impedance structures. They operate to 4 GHz with low reflection and are useable to 10 GHz. The SMC types have .190-.32 threaded coupling in 50 ohm impedance designs and operate reliably to 10 GHz. A full range of SMB and SMC connector configurations is available, including receptacles, printed circuit connectors and low profile designs.</p> <p>Generally less expensive than the SMA, the SMBs and SMCs are used primarily in applications for microwave telephony and other non-defense telecommunication requirements.</p>
<b>SSMB/C 908 Series</b>  Available, Not Shown		<p>Amphenol 908 Series <b>SSMB</b> and <b>SSMC</b> microminiatures are designed for use where small, durable, light-weight interconnections are needed, especially for microminiature packaging. Performance is similar to SMB/SMC. Mating thread size of the SSMC is .138-40 UNF. Plugs in the series have closed-entry socket contacts.</p>



## Subminiature RF/Microwave Connectors

Impedance	Frequency Range	VSWR	Voltage Rating	Temperature Range	Cable Termination	Coupling Type	Standards	Catalog Pages
50 ohms	0-18 GHz  High Perf: 0-26.5 GHz	1.25 max. 0-18 GHz  High Perf: 1.2 max. 0-18 GHz; 1.3 max. 18-26.5 GHz	500 V peak	-65° C to +165° C (Standard TFE Insulators)	Clamp, Crimp, Solder, Compression- Clamp, Compression- Crimp, TAPER-CLAMP™	.250-36 Threaded Coupling	MIL-C-39012 & MIL-A-55339 where applicable   Receptacle designs conform to MIL-C-83517 NO■	<b>SMA</b>  66-79  Phase Adj.: 73-75
50 ohms	0-40 GHz on .086" semi- rigid cable  0-26 GHz per flexible cable used	1.33 max. 0-26 GHz  1.6 max. 26-40GHz	500 V peak	-65° C to +165° C (Standard TFE Insulators)	Crimp, or Solder	10-36 Threaded Coupling	MIL-C-39012 where applicable	<b>SSMA</b>  Δ
50 ohms or 75 ohms	SMB: 0-4 GHz with low reflection; useable to 10 GHz  SMC: 0-10 GHz	SMB: 1.5 max. 0-4 GHz  SMC: 1.6 max. 0-10GHz	50 ohm Connectors: 375 V peak  75 ohm Connectors: 500 V peak	-65° C to +165° C (Standard TFE Insulators)	Braid Crimp, Solder Ctr. Contact	SMB: Snap-on Coupling  SMC: .190-32 Threaded Coupling	903 Series designs conform to MIL-C-39012 NO■	<b>SMB/SMC</b>  SMB: 80-83  SMC: 84-87
50 ohms	SSMB: 0-4 GHz  SSMC: 0-12.4 GHz	SSMB: 1.5 max. 0-4 GHz  SSMC: 1.30+.02/(GHz) 0-12.4 GHz	250 VRMS at sea level	-65° to -85°C	Braid Crimp, Solder Ctr. Contact	SSMB: Snap-on Coupling  SSMC: .138-40 Threaded Coupling	—	<b>SSMB/C</b>  Δ

## Precision RF/Microwave Connectors



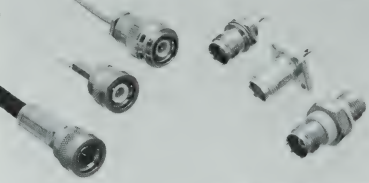
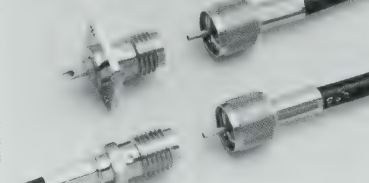



Series	Products	Description
<b>APC-2.4™</b>       Available, Not Shown		<p>Amphenol <b>APC-2.4™</b> connectors are the first instrument grade coaxial interconnection devices to achieve repeatable TE<sub>11</sub> mode resonance-free signal transmission from DC through 50 GHz with a minimum return loss of 26 dB. These 50 ohm connectors terminate 2.4mm rigid airline and are designed primarily for use in test and measurement equipment where reliable performance through repeated connect/disconnect cycles is critical.</p> <p>Among the microwave systems applications which will benefit from this high performance connector series are satellite communications, military EW, and radio astronomy as well as the instrumentation and microwave devices used in such systems. For APC-2.4 between series adapters and for the production grade version of the APC-2.4, denoted the A-50™ subminiature series, please contact the factory.</p>
<b>APC-3.5®</b>       Available, Not Shown		<p>Amphenol <b>APC-3.5®</b> precision connectors operate mode free DC to 34 GHz with 1.15 max. VSWR and 0.09 dB max. insertion loss. These high performance 50 ohm connectors offer ruggedness and reliability for use in test and instrument applications where repeatability through many connect/disconnect cycles is required. Originally designed as interconnects for equipment used to test SMA assemblies in microwave devices and systems, the APC-3.5 has found a variety of uses where high frequency and low reflection are needed in a moderate environment. Designs are available to terminate 3.5mm rigid airline and .086" and .141" semi-rigid cable. Also available is a kit of short and open circuit terminations for use in calibrating automatic network analyzers. For APC-3.5 between series adapters, please contact the factory.</p>
<b>APC-7®</b>  Between Series Adapters Page 91   Others Available, Not Shown		<p>Amphenol <b>APC-7®</b> precision 50 ohm connectors are designed to operate mode free DC-18 GHz with 1.04 max. VSWR and 0.03 dB max. insertion loss. Since their introduction in the 1960s, APC-7 connectors have become the test port interconnection choice for a great variety of microwave measurement systems and equipment. Their accuracy and repeatability derive from a sexless, coplanar mating face which yields long life with minimum contact wear and distortion.</p> <p>For attachment to APC-7 test ports, Amphenol RF offers a full line of precision between series adapters; for the most popular, see the Between Series Adapters Index on page 91. For the complete listing, please contact the factory.</p> <p>Also available - for all APC series - are precision microwave cable assemblies manufactured to customer specifications, including phase matching, test data, prototypes and more. Contact your Amphenol RF Sales Engineer or the factory for details.</p>
<b>APC-N</b>       Available, Not Shown		<p>Amphenol <b>APC-N</b> precision connectors operate mode free DC-18 GHz with 1.08 max. VSWR and 0.13 dB max. insertion loss. For performance and durability, the APC-N is almost as popular a 50 ohm test port interconnection choice as the APC-7. As with the other Amphenol APC series, the APC-N has a bead-supported center contact and air dielectric. The body material is stainless steel for long life, and the outer contact is a solid cylinder as compared to the slotted outer contact of the ordinary Type N.</p> <p>In some applications for microwave measurement systems and test equipment it has been found advantageous to be able to use either the APC-7 or the APC-N on the 7mm threaded airline as needed. Therefore, the APC-N is designed to be interchangeable with the APC-7 on 7mm airline. APC-N mates with all standard Type N connectors.</p> <p>For attachment to APC-N test ports, a full line of precision between series adapters is available; for the most popular, see the Between Series Adapter Index, page 91. For complete listing, please contact the factory.</p>



## Precision RF/Microwave Connectors

Impedance	Frequency Range	VSWR	Voltage Rating	Temperature Range	Cable Termination	Coupling Type	Standards	Catalog Pages
50 ohms	DC-50 GHz	Connectors on Airline: 1.11 max. DC - 50 GHz	400 V peak	-70° C to +80° C	2.4mm Threaded Airline, See illustration Page 65E	M7X.075 Threaded Coupling	—	<b>APC-2.4™</b>  Δ
50 ohms	0-34 GHz	Connectors on Airline: 1.01 + .004 f(GHz) 0-34 GHz	1,500 V peak	-65° C to +85° C	Semi-rigid Cable: Solder  3.5mm Threaded Airline, See illustration Page 67D	1/4-36 Threaded Coupling	IEC Publication 169-23 (to be published)	<b>APC-3.5®</b>  Δ
50 ohms	0-18 GHz	Connectors on Airline: 1.003 + .002f(GHz) 0-18 GHz	2,500 V peak	+13° C to +33° C	Clamp, Crimp  7 mm Threaded Airline, See illustration Page 67D	Sexless, Coplanar with nut - 11/16-24NEF, body and sub-assys  APC-7S Same as APC-7 but with sexed coupling rings	IEEE Standard 287-1968	<b>APC-7®</b>  Δ  Between Series Adapters 91-97  Tool Kit 90
50 ohms ± 0.2 ohms	0-18 GHz	Connectors on Airline: 1.08 max. 0-18 GHz	2,500 V peak	+13° C to +33° C	Clamp, Crimp  7 mm Threaded Airline, See illustration Page 67D	5/8-24 Threaded Coupling		<b>APC-N</b>  Δ

# RFX™ Connector Specifications ‡

Series	Products	Description
<b>50Ω BNC</b>  Page 102		Amphenol RFX™ <b>BNC</b> connectors are widely used in computer network, broadcast and video applications where their low cost and quick disconnect bayonet coupling are key features. Cable termination styles available include three-piece crimp-crimp, two-piece single crimp, three piece QUICK-TRIM®, and one-piece SURETWIN®, as well as traditional clamp-solder designs. Useable with low reflection to 4 GHz on 50Ω cables, these BNCs also perform well to 500 MHz on 75Ω cables without significant impedance mismatch.
<b>75Ω BNC</b>  Page 102		Amphenol RFX™ <b>75Ω BNC</b> connectors have been designed to meet the need for interconnections in video, computer and other applications where 75-ohm performance is required to insure low signal distortion DC-2 GHz on 75 ohm cables. This 75 ohm design will not suffer contact destruction or intermittence if mated to 50 ohm BNC connectors. These connectors feature 3-piece crimp-crimp cable affixment for quick and reliable installation.
<b>TNC</b>  Page 109		Amphenol RFX™ <b>TNC</b> connectors are .437-28 threaded coupling units which have 50Ω impedance, operating to 11 GHz on flexible cables. TNCs are widely used in 50Ω data transmission networks such as Wangnet™▲.
<b>UHF</b>  Page 111		Amphenol RFX™ <b>UHF</b> connectors have .625-24 mating threads and are low cost, general purpose units which operate satisfactorily from DC to 300 MHz. Applications include Citizens Band radio antenna connections to transmitter/receiver; public address systems; and a variety of other low frequency system applications where cost is the primary consideration.
<b>Mini-UHF</b>  Page 118		Amphenol RFX™ <b>Mini-UHF</b> connectors are designed for use in communications applications where size, weight and cost factors are critical. These connectors also provide inexpensive interconnections for local area network systems (LANs). These .375-25 threaded connectors offer RF performance for applications to 2.0 GHz and the crimp-type cable terminations yield low installation costs.
<b>Type N</b>  Page 113		Amphenol RFX™ <b>Type N</b> connectors are 50Ω .625-24 threaded-coupling units for use DC to 11 GHz and have a voltage rating of 1500 volts peak. Type N connectors are available in crimp and clamp cable attachment designs. Applications include IEEE 802.3 Ethernet™ LANs, broadcast and other telecommunications systems.
<b>TWINAX</b>  Page 116		Amphenol RFX™ <b>Twinax</b> connectors are used in balanced line computer network applications. They have keyway polarization and .750-20 threaded coupling. They are used primarily in System 3X/400 and related balanced line circuits.

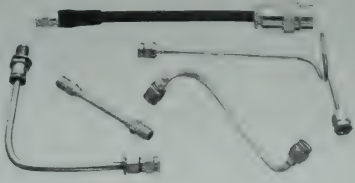
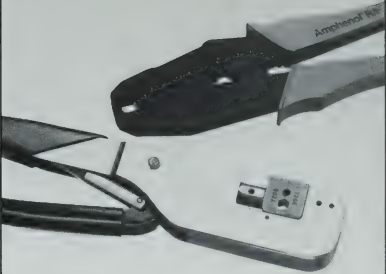




# RFX™ Connector Specifications ‡

Impedance & Voltage Rating	Frequency Range	Insulation & Contact Resistance	Materials & Finish	Cable Termination	Coupling Type	Catalog Page
50 ohms Nominal  500 V peak	0-4 GHz with low reflection on 50Ω cables.  Useable to 500 MHz on 75Ω cables.	Insulation: 5000 megohms min.  Center Contact: 1.5 milliohms  Outer Contact: 3.0 milliohms	Body & Body Components: Brass Male Contacts: Brass Female Contacts: Phosphor Bronze Insulators: Delrin, Noryl Gaskets: Silicone Rubber Crimp Ferrule: Annealed Copper Finish: Contacts: Gold or Silver Body & Other Metal Parts: Nickel	Crimp-Crimp, Single Crimp, QUICK-TRIM®, SURETWIST®, Clamp-Solder	Two-Stud Bayonet Lock  Interface Dims to IEC Publ. 169-8	<b>50Ω BNC</b>  102-108
75 ohms Nominal  500 V peak	0-2.0 GHz	Insulation: 5000 megohms min.  Center Contact: 1.5 milliohms  Outer Contact: 3.0 milliohms	Body & Body Components: Brass Male Contacts: Brass Female Contacts: Phosphor Bronze Insulators: Delrin Gaskets: Silicone Rubber Crimp Ferrule: Annealed Copper Finish: Contacts: Gold Body & Other Metal Parts: Nickel	Crimp-Crimp	Two-Stud Bayonet Lock  Interface Dims to IEC Publ. 169-8 (Annex in work)	<b>75Ω BNC</b>  102-107
50 ohms Nominal  500 V peak	0-11 GHz on 50Ω cables	Insulation: 5000 megohms min.  Center Contact: 1.5 milliohms  Outer Contact: 3.0 milliohms	Body & Body Components: Brass Male Contacts: Brass Female Contacts: Phosphor Bronze Insulators: Delrin Gaskets: Silicone Rubber Crimp Ferrule: Annealed Copper Finish: Contacts: Gold Body & Other Metal Parts: Nickel	Crimp-Crimp, Clamp-Solder	.437-28 Threaded Coupling  Interface Dims to IEC Publ. 169-17	<b>TNC</b>  109-110
Non-constant  500 V peak	0-300 MHz	—	Body & Body Components: Brass Male Contacts: Brass Female Contacts: Phosphor Bronze Insulators: Phenolic, TFE, PBT- Polyester, Diallyl Phthalate, Polystyrene FCP Ferrule: Annealed Copper Finish: Contacts: Silver Body & Other Metal Parts: Nickel	UG Std-Solder, FCP	625-24 Threaded Coupling  Interface Dims to IEC Publ. 169-12	<b>UHF</b>  111-112
50 ohms Nominal  335 V peak	0-2 GHz	Insulation: 5000 megohms min.  —  —	Body & Body Components: Brass Male Contacts: Brass Female Contacts: Phosphor Bronze Insulators: TFE, Polypropylene Ferrule: Annealed Copper Finish: Contacts: Gold or Tin-Lead Body & Other Metal Parts: Nickel	Crimp-Crimp	.375-24 Threaded Coupling	<b>Mini-UHF</b>  118
50 ohms or 75 ohms as noted  1,500 V peak	0-11 GHz on 50Ω cables	Insulation: 5000 megohms min.  Center Contact: 1.0 milliohms  Outer Contact: 0.25 milliohms	Body & Body Components: Brass Male Contacts: Brass Female Contacts: Phosphor Bronze Insulators: TFE Gaskets: Silicone Rubber Crimp Ferrule: Annealed Copper Finish: Contacts: Gold or Silver Body & Other Metal Parts: Nickel	Crimp-Crimp, Clamp-Solder	625-24 Threaded Coupling  Interface Dims to IEC Publ. 169-16	<b>N</b>  113-115
95 ohms Nominal  Used with 78, 95 & 100 ohm twin conductor cables 500 V peak	0-200 MHz	—	Body & Body Components: Brass Male Contacts: Brass Female Contacts: Phosphor Bronze Insulators: PBT Polyester Gaskets: Silicone Rubber Finish: Contacts: Gold or Silver Body & Other Metal Parts: Nickel	Braid Clamp-Solder or Crimp Contacts	.750-20 Threaded Coupling  Interface Dims to IEC Publ. 169-25 (in work)	<b>TWINAX</b>  116-117

‡ for commercial applications only; not for use in military systems

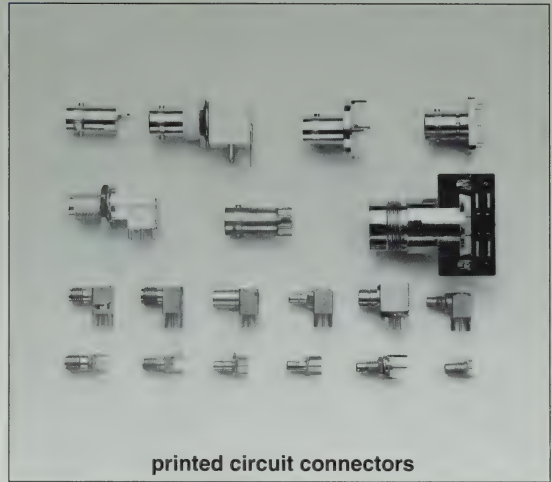
## RF/Microwave Products

Series	Products	Description	Catalog Pages
<b>95 Series Cable Assemblies</b>  Available, See Page 120		Amphenol <b>RF/Microwave Cable Assemblies</b> are available to meet the most exacting microwave and data transmission system requirements for coaxial, twinax, and triaxial interconnections. Phase matching, test data, prototypes and more can be supplied to customer specifications. See page 178 and the Cable Assembly Requirements sheet for details. For prompt assistance call your nearest Amphenol Sales Engineer or contact the factory.	<b>95 Series</b> See Page 120
<b>227 Series, CTL Series Connector Tools</b>  Page 88		Amphenol <b>227 Series &amp; CTL Series Connector Tools</b> are available for terminating all popular RG coaxial and twinaxial cables, as well as semi-rigid cables and rigid airline. Crimp tools and die sets will meet a variety of applications including inexpensive hand tools for premises wiring, a tool frame and dies for military and other moderate volume usage, and a pneumatic crimp tool for higher volume production. Also available are special tools and kits for use with SMA and APC series connectors.	<b>227 Series</b> 89-90  <b>CTL Series</b> 88
<b>362 Series Automatic Terminators</b>  Available, Not Shown		Amphenol <b>362 Series Automatic Terminators</b> are used in transmission lines that cannot show an open circuit at any time. When disconnected, these components automatically terminate the line with a resistive load. Primary applications are sensitive data and video transmission networks where an open circuit could disrupt the function of the mainframe or other signal processing and network elements.	Δ
<b>Between Series Adapters</b>  See Index, Page 91		Amphenol <b>RF Between Series Adapters</b> are used to provide a transition from one RF connector series to another. An Index is given on page 91. The Amphenol RF line is the most comprehensive in the industry, and you will find a configuration available to satisfy almost every application. Should you require a special mating characteristic or a configuration not shown in this catalog, please contact your nearest Amphenol RF Sales Representative or call the factory: (203) 743-9272.	91-98



# printed circuit connector index

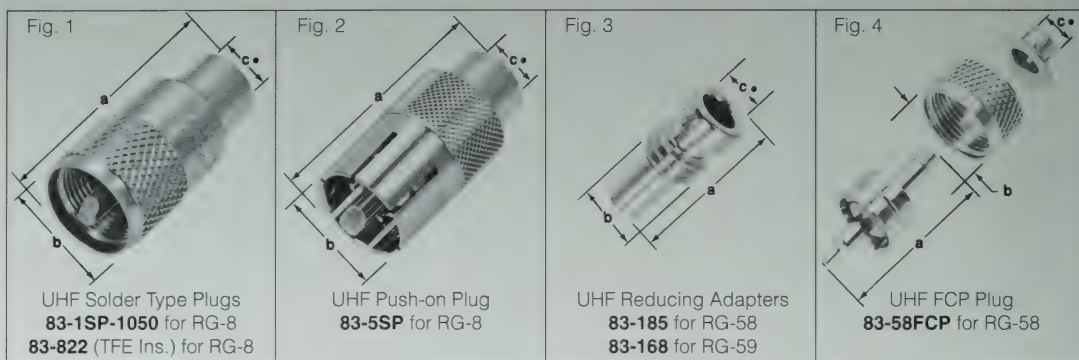
SERIES	CONNECTOR CONFIGURATION	CONSTRUCTION NOTES	AMPHENOL PAGE NUMBER
<b>BNC</b>			
BNC	Straight Recept. (J) .380" Ø Base	Brass, 3 Legs, Post Terminal	31-5158 51
BNC	Straight Recept. (J) .380" Ø Base	Zinc, 3 Legs, Post Terminal	31-5329 51
BNC	Straight Recept. (J) .812" Ø Base	4 Legs .175" Long, Post Terminal	31-4758 Δ
BNC	Straight Recept. (J) .687" Ø Base	4 Legs .125" Long, Post Terminal	18225 51
BNC	Iso. Angle Blkh. Recept. (J) White Valox Housing	2 Fork Pins, 2 Posts for S & G	31-5431 50
BNC	Iso. Angle Blkh. Recept. (J) Black Valox Housing	2 Fork Pins, 2 Posts for S & G	31-5538 50
BNC	Iso. Angle Blkh. Recept. (J) Metal Housing	2 Fork Pins, 2 Posts for S & G	31-5460 50
BNC	Iso. Low Prof. Angle Blkh. Rec. (J) White Valox Housing	2 Fork Pins, 2 Posts for S & G	31-5486 50
BNC	Iso. Low Prof. Angle Blkh. Rec. (J) Black Valox Housing	2 Fork Pins, 2 Posts for S & G	31-5540 50
BNC	Iso. Low Prof. Angle Blkh. Rec. (J) Metal Valox Housing	2 Fork Pins, 2 Posts for S & G	31-5637 50
BNC	Iso. Vertical Blkh. Recept. (J) White Valox Housing	2 Fork Pins, 2 Posts for S & G	31-5493 50
BNC	Iso. Vertical Blkh. Recept. (J) Black Valox Housing	2 Fork Pins, 2 Posts for S & G	31-5539 50
BNC	Iso. Vertical Blkh. Recept. (J) Metal Housing	2 Fork Pins, 2 Posts for S & G	31-5633 50
<b>81 Series Mini-UHF</b>			
Mini-UHF	Straight Receptacle (J) .468" Sq. Base	4 Legs .102" Long, Post Terminal	81-123 Δ
Mini-UHF	Angle Bulkhead Recept. (J) .360" Sq. Base	4 Legs .120" Long, Post Terminal	81-119-1002 Δ
<b>901 Series SMA</b>			
SMA	Straight Receptacle (J) .250" Sq. Base (GP)	4 Legs .155" Long, Post Terminal	901-144 71
SMA	Straight Recept. (J) .250" Sq. Base (GP)	4 Legs .093" Long, Post Terminal	901-144-1 71
SMA	Straight Recept. (J) .250" Sq. Base (GP)	4 Solder Dipped Legs .105" Long, Post Term.	901-144-1 71
SMA	Straight Recept. (J) .250" Sq. Base (GP)	4 Solder Dipped Legs .155" Long, Post Term.	901-144-3 71
SMA	Straight Recept. (J) .250" Sq. Base (GP)	4 Legs .200" Long, Post Terminal	901-144-4 71
SMA	Angle Recept. (J) .250" Sq. Base (GP)	4 Legs .155" Long, Post Terminal	901-143 71
SMA	Angle Recept. (J) .250" Sq. Base (GP)	4 Solder Dipped Legs .155" Long, Post Term.	901-143-3 71
SMA	Angle Recept. (J) .250" Sq. Base (GP)	4 Solder Dipped Legs .105" Long, Post Term.	901-143-4 71
<b>903 Series SMB</b>			
SMB	Straight Recept. (J) .250" Sq. Base (GP)	4 Legs .155" Long, Post Term.	903-415J-51P 82
SMB	Straight Recept. (J) .250" Sq. Base (NP)	4 Legs .155" Long, Post Term.	903-496J-51S 82
SMB	Low Prof. Str. Rec. (P) .250" Sq. Base (GP)	4 Legs .155" Long, Post Term.	903-427P-51P 81
SMB	Str. Bulkhead Recept. (J) .250" Sq. Base (GP)	4 Legs .155" Long, Post Term.	903-375J-53P 82
SMB	Angle Recept. (J) .312" Sq. Base (TL/GP)	4 Legs .155" Long, Post Term.	903-373J-51A 82
SMB	Low Prof. Angle Rec. (J) .250" Sq. Base (GP)	4 Legs .155" Long, Post Term.	903-428J-51P 81
SMB	Angle Bulkhead Recept. (J) .312" Sq. Base (TL/GP)	4 Legs .155" Long, Post Term.	903-413J-51A 82
SMB	Angle Bulkhead Recept. (J) .250" Sq. Base (GP)	4 Legs .155" Long, Post Term.	903-376J-51A 82



SERIES	CONNECTOR CONFIGURATION	CONSTRUCTION NOTES	AMPHENOL PAGE NUMBER
<b>903 Series SMB cont.</b>			
SMB	Slide-on Str. Rec. (J) .250" Sq. Base (GP)	4 Legs .155" Long, Post Term.	903-409J-53P 82
SMB	Slide-on Str. Rec. (P) .250" Sq. Base (GP)	4 Legs .155" Long, Post Term.	903-410J-53P 82
<b>903 Series SMC</b>			
SMC	Straight Recept. (J) .250" Sq. Base (GP)	4 Legs .155" Long, Post Terminal	903-420J-52P 85
SMC	Str. Bulkhead Recept. (J) .250" Sq. Base (GP)	4 Legs .155" Long, Post Terminal	903-421J-52P 85
SMC	Angle Recept. (J) .312" Sq. Base (TL/GP)	4 Legs .155" Long, Post Terminal	903-378J-52A 85
SMC	Angle Bulkhead Recept. (J) .312" Sq. Base (TL/GP)	4 Legs .155" Long, Post Terminal	903-419J-52A 85
<b>908 Series SSMC</b>			
SSMC	Angle Recept. (J) .187" Ø Base	4 Legs .105" Long, Post Terminal	908-100J-52A Δ
<b>Triax-BNC</b>			
Triax-BNC	Straight Recept. (J) 2-hole Rect. Fl. .687"x1.00" 3 Bayonet Lugs 120° apart	2 Post Terms .185" Long	31-35446-1 Δ
<b>Twin-BNC</b>			
Twin-BNC	Straight Recept. (J) .381" Ø Base	4 Legs .188" Long, 2 Post Terminals	31-35148-1 Δ
<b>TWIN (.750-20, Keyed 90°)</b>			
Twin-K90°	Angle Receptacle for Color Mon. & .062 PCB	Clip Mt. Rect. Fl. 4 Pins Switched	82-5840-1062 43
Twin-K90°	Angle Receptacle for Color Mon. & .090 PCB	Clip Mt. Rect. Fl. 4 Pins Switched	82-5840-1090 43
Twin-K90°	Angle Receptacle for Color Mon. & .125 PCB	Clip Mt. Rect. Fl. 4 Pins Switched	82-5840-1125 43
Twin-K90°	Angle Receptacle for Mono. Mon. & .062 PCB	Clip Mt. Rect. Fl. 4 Pins Switched	82-5841-1062 43
Twin-K90°	Angle Receptacle for Mono. Mon. & .090 PCB	Clip Mt. Rect. Fl. 4 Pins Switched	82-5841-1090 43
Twin-K90°	Angle Receptacle for Mono. Mon. & .125 PCB	Clip Mt. Rect. Fl. 4 Pins Switched	82-5841-1125 43

## UHF coaxial connectors

Amphenol® UHF connectors are low cost general purpose units designed to operate satisfactorily DC to 300 MHz with voltage rating of 500 V peak. See specifications, page 18.

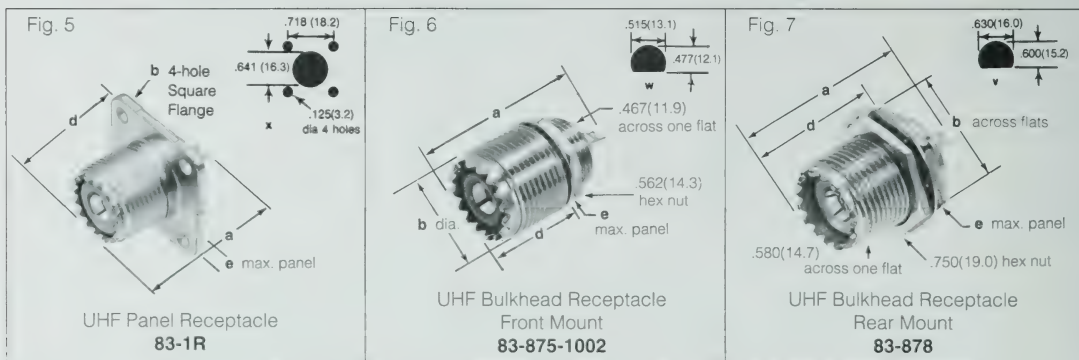


### UHF CABLE PLUGS • male contacts

Cable RG-/U	Cable Attachment		Dimensions, inches (millimeters)			Construction Notes		Military Number	Amphenol Number	Fig.
	Outer	Inner	a	b	c •	CAI	Plt. Ins.			
8, 9, 11, 13, 63, 87A, 149, 213, 214, 216, 225	Solder	Solder	1.50(38.0)	.750(19.0)	.444(11.3)	C1	P1 D3 IBM 460147	PL-259	<b>83-1SP-1050</b>	1
	Solder	Solder	1.50(38.0)	.750(19.0)	.444(11.3)	C1	P1 D1 TFE Insulation	PL-259	<b>83-822</b>	1
	Solder	Solder	1.50(38.0)	.719(18.3)	.444(11.3)	C1	P1 D3 Push-on Mating	—	<b>83-5SP</b>	2
58, 141	FCP	Pliers	1.06(27.0)	.750(19.0)	.195(4.9)	C2	P3 D2 No Soldering	—	<b>83-58FCP</b> □	4

### REDUCING ADAPTERS • for use in P/Ns 83-1SP-1050, 83-822, 83-5SP – adapts to smaller cables

Description	Dimensions, inches (millimeters)			CAI	Plt.	Military Number	Amphenol Number	Fig.
	a	b	c •					
For use on RG-55, 58, 141, 142 Cable (Except 55A)	1.00(25.4)	.438(11.1)	.209(5.3)	C3	D4	UG-175	<b>83-185</b>	3
For use on RG-59, 62, 71, 140, 210 Cable	1.00(25.4)	.438(11.1)	.257(6.5)	C3	D4	UG-176	<b>83-168</b>	3



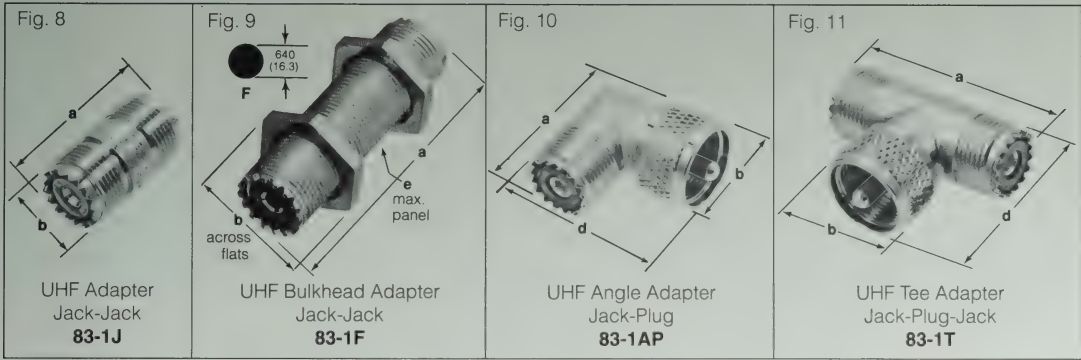
### UHF RECEPTACLES • female contacts

Description	Terminal Type	Dimensions, inches (millimeters)				Plt.	Ins.	MTG Hole	Military Number	Amphenol Number	Fig.
		a	b	d	e						
4-hole Square Flange Panel Type	Solder Cup	1.05(26.8)	1.00(25.4)	.553(14.0)	.187(4.7)▲	P*	D2	x	SO-239	<b>83-1R*</b>	5
Front Mount Bulkhead Type	Solder Cup	1.09(27.8)	—	.500(12.7)	.156(4.0)	P*	D4	w	—	<b>83-875-1002</b>	6
Rear Mount Bulkhead Type	Solder Cup	1.06(27.0)	.750(19.1)	.730(18.5)	.187(4.7)	P*	D2	v	—	<b>83-878</b>	7

• accommodates cable diameter □ US patent 4,053,200 ★ IBM 317228 ▲ max. panel when rear-mounted thru panel.



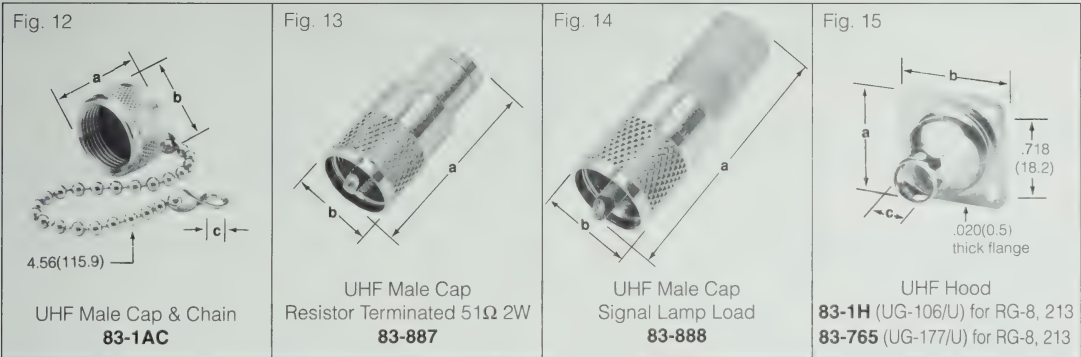
## UHF adapters and accessories



### UHF IN-SERIES ADAPTERS

Description	Dimensions, inches (millimeters)				Plt.	Ins.	MTG Hole	Military Number	Amphenol Number	Fig.
	a	b	d	e						
Straight/Jack-Jack	1.12(28.6)	.625(15.9)	—	—	P1	D5	—	PL-258	<b>83-1J</b>	8
Bulkhead/Jack-Jack	2.00(50.8)	.625(15.9)	—	.890(22.6)	P1	D5	F	UG-363	<b>83-1F</b>	9
Angle/Jack-Plug	1.28(32.5)	.750(19.1)	1.19(30.2)	—	P1	D5	—	UG-646	<b>83-1AP</b>	10
Tee/Jack-Plug-Jack	1.63(41.3)	.750(19.1)	1.20(30.6)	—	P1	D5	—	M-358	<b>83-1T *</b>	11

★ IBM 3213987



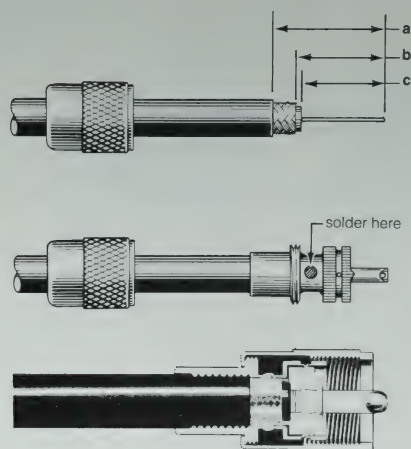
### UHF CAPS AND LOADS

Description	Dimensions, inches (millimeters)			CAI	Plt.	Ins.	Military Number	Amphenol Number	Fig.
	a	b	c						
Male Cap & Chain	.469(11.9)	.750(19.1)	.130(3.3)	—	P5	—	—	<b>83-1AC</b>	12
Male Cap - Resistor Load - 51 ohms 2 watts	1.50(38.1)	.688(17.5)	—	—	P1	D3	—	<b>83-887</b>	13
Male Cap - Signal Lamp Load	2.25(57.2)	.688(17.5)	—	—	P1	D3	—	<b>83-888</b>	14
Hood/4-hole flange mount/Adapts Panel Receptacle 83-1R to RG-8,10,11,12,63,79,115,149,213,215 cables	.750(19.1)	1.00(25.4)	.345(8.8)	C28	P5	—	UG-106	<b>83-1H</b>	15
Hood/4-hole flange mount/Adapts Panel Receptacle 83-1R to RG-58,141 cables	.750(19.1)	1.00(25.4)	.155(3.9)	C28	P5	—	UG-177	<b>83-765</b>	15

## UHF assembly instructions - C1

### UG STANDARD SOLDER TYPE

PLUGS 83-1SP-1050, 83-5SP, 83-822



coupling ring



83-168 or 83-185  
reducing adapter  
(when required)



plug sub-assembly

Cut end of cable even and strip jacket, braid and dielectric to dimensions shown in table. All cuts are to be sharp and square. Do not nick braid, dielectric or center conductor. Tin exposed center conductor and braid, avoiding excessive heat.

Amphenol Number	Stripping dims. inches (mm)		
	a	b	c
83-1SP-1050, 83-5SP	1.25(31.8)	.687(17.4)	.625(15.9)
83-822	1.13(28.6)	.687(17.4)	.625(15.9)

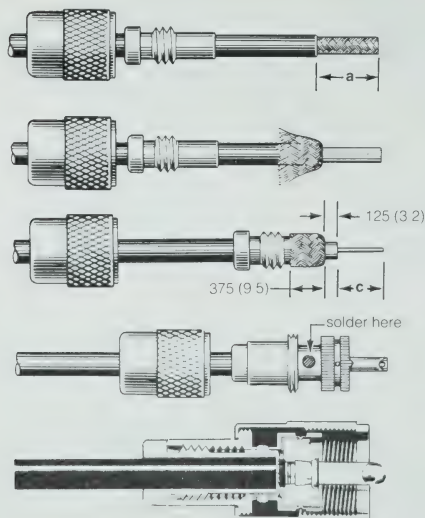
**Straight plugs (except 83-5SP).** Slide coupling ring on cable. Screw the plug sub-assembly on cable. Solder assembly to braid through solder holes, making a good bond between braid and shell. Solder conductor to contact. Do not use excessive heat. For final assembly, move coupling ring forward and screw in place on plug sub-assembly.

**83-5SP push-on plug.** Screw the plug sub-assembly on cable and solder to braid as described above. Screw coupling ring in place over plug sub-assembly until threads bottom.

## UHF assembly instructions - C3

### UG STANDARD SOLDER TYPE WITH REDUCING ADAPTER

PLUGS 83-1SP-1050, 83-5SP, 83-822, USING 83-168 OR 83-185 REDUCING ADAPTER



Use 83-185 for RG-58

Use 83-168 for RG-59

Cut end of cable even. Remove vinyl jacket to dimension **a** in table below. Slide coupling ring and adapter on cable.

Amphenol Number	Stripping dims. inches (mm)	
	a	c
83-1SP-1050, 83-5SP, 83-822	.750(19.1)	.625(15.9)

Fan braid slightly and fold back as shown.

Position adapter flush with cable jacket. Press braid down over body of adapter and trim to .375" (9.5mm). Bare conductor to dimension **b**. Tin exposed center conductor.

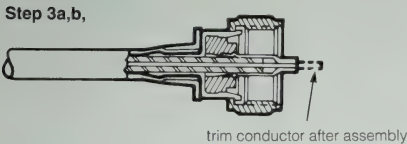
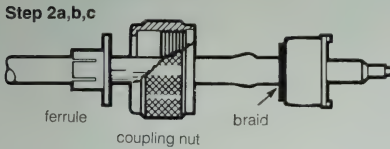
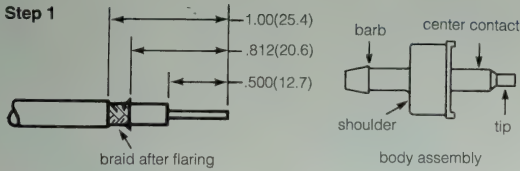
Screw plug sub-assembly on adapter. Solder braid to shell through solder holes. Use enough heat to create bond of braid to shell. Solder conductor to contact.

For final assembly, screw coupling ring on plug sub-assembly.



## UHF assembly instructions - C2

### PLUG 83-58FCP\*



**Step 1** Strip cable to dimensions shown.

**Step 2a** Follow illustrations. Slide ferrule and coupling nut over cable.

**Step 2b** Flair braid slightly by rotating cable center conductor and insulation in circular motion. Leave center conductor straight.

**Step 2c** Insert cable center conductor into body. Slide body over insulation with barb going under flared braid until shoulder is against cable jacket. Slide nut onto body.

**Step 3a** Grasp cable and push ferrule over barb until braid is captured between ferrule and body shoulder.

**Step 3b** Squeeze-crimp tip only of center contact with pliers or solder, if you prefer. Then trim center conductor.

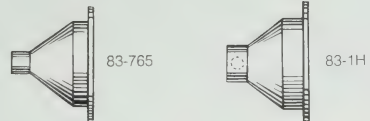
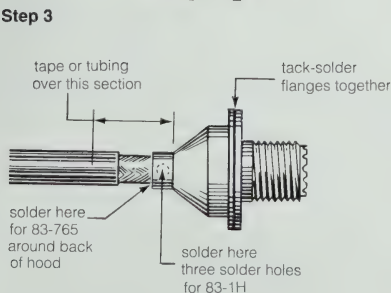
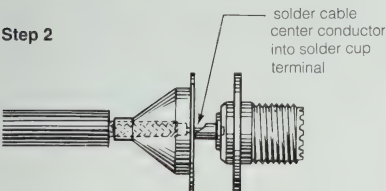
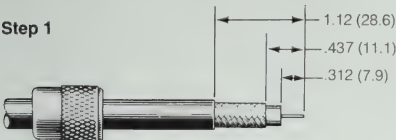
\* U. S. PATENT 4,053,200

## UHF assembly instructions - C28

### HOODS FOR ADAPTING PANEL RECEPTACLES TO COAXIAL CABLES

83-1H (UG-106/U) for RG-8, 10, 11, 12, 63, 79, 115, 149, 213, 215

83-765 (UG-177/U) for RG-58, 141



**Step 1** Strip cable to dimensions shown. Do not nick center conductor. Tin exposed braid and center conductor.

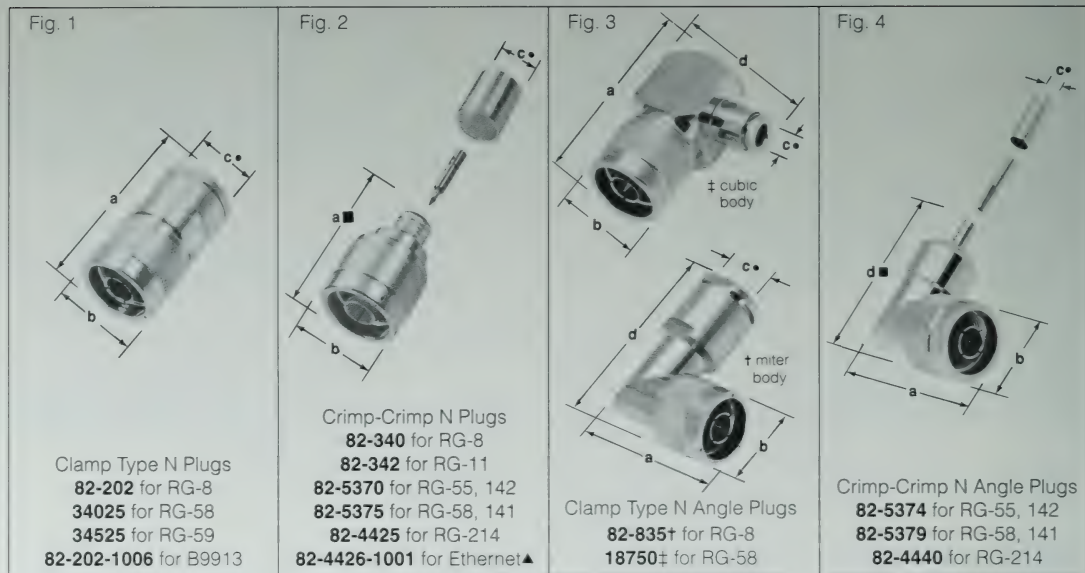
**Step 2** Slide hood over braid. ▲Solder Center Conductor into solder cup terminal.

**Step 3** Slide hood flush against receptacle and tack-solder hood flange to receptacle flange. Solder hood to braid as shown. Use tape or tubing over section shown.

▲When using double-braided cable, hood goes over inner braid only. Then, in step 3, solder outer braid to outside of hood.

## Type N coaxial connectors

Amphenol® Type N connectors are 50  $\Omega$  medium size, weatherproof threaded coupling units designed for use DC-11GHz with a voltage rating of 1,500 V peak. See specifications, page 18.



### N CABLE PLUGS • male contacts

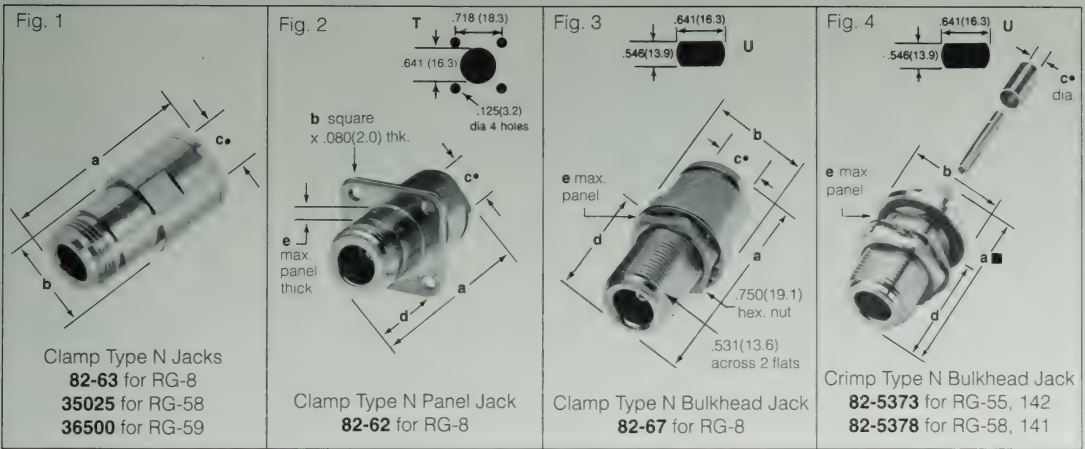
Cable RG-/U	Cable Attachment		Dimensions, inches (millimeters)			Construction Notes				Military Number	Amphenol Number	Fig.
	Outer	Inner	a	b	c •	CAI	Pit.	Ins.				
8, 213	Crimp	Crimp	1.48(37.7) ■	.813(20.6)	.418(10.6)	C5	P6	D1	Wire Holes	M39012/01B0007	<b>82-340</b>	2
8, 9, 144, 165, 213	Clamp	Solder	1.50(38.1)	.813(20.6)	.444(11.2)	C4	P1	D1	Wire Holes	UG-21D	<b>82-202</b> ☆	1
214, 216, 225										UG-21B	<b>82-61</b>	
11, 149	Crimp	Crimp	1.48(37.7) ■	.813(20.6)	.418(10.6)	C5	P6	D1	CC/Wire Holes	M39012/01B0013	<b>82-342</b>	2
55, 142, 223	Crimp	Crimp	1.37(34.9) ■	.813(20.6)	.220(5.6)	C5	P53	D1	Wire Holes	—	<b>82-5370</b>	2
58, 141	Crimp	Crimp	1.48(37.7) ■	.813(20.6)	.206(5.2)	C5	P54	D1	Wire Holes	—	<b>82-5375</b>	2
	Clamp	Solder	1.38(34.9)	.813(20.6)	.219(5.4)	C4	P1	D1	Wire Holes	UG-536B	<b>34025</b>	1
59, 62, 71, 140, 210	Clamp	Solder	1.38(34.9)	.813(20.6)	.257(6.5)	C4	P1	D1	Wire Holes	UG-603A	<b>34525</b>	1
214, 225, 393	Crimp	Crimp	1.45(36.9) ■	.813(20.6)	.438(11.1)	C5	P6	D1	CC/Wire Holes	M39012/01-0501	<b>82-4425</b>	2
Ethernet▲ Cables Times AA4478(FEP), AA4479(PVC); Belden 89880(FEP), 9880(PVC); Malco 250-4314-0003(FEP), 250-4315-0004(PVC); Phalo 036-001-80145(FEP), 036-001-05633(PVC)	Crimp	Crimp	1.45(36.9) ■	.813(20.6)	.418(10.6)	C5	P2	D1	—	—	<b>82-4426-1001</b>	2
Belden 9913	Clamp	Solder	1.50(38.1)	.813(20.6)	.443(11.2)	C4	P1	D1	—	—	<b>82-202-1006</b>	1

### N ANGLE PLUGS • male contacts

Cable RG-/U	Cable Attachment		Dimensions, inches (millimeters)				Construction Notes			Military Number	Amphenol Number	Fig.		
	Outer	Inner	a	b	c •	d	CAI	Pit.	Ins.					
214, 225, 393	Crimp	Crimp	1.41(35.7)	.813(20.6)	.438(11.1)	1.95(49.5)	■	C5	P6	D1	—	M39012/06-0501	82-4440	4
8, 9, 87A, 144, 165	Clamp	Solder	1.47(37.3)	.813(20.6)	.437(11.1)	1.92(48.8)	C4	P1	D1	—	—	82-835 ☆†	3†	
213, 214, 216, 225														
55, 142, 223	Crimp	Crimp	1.41(35.7)	.813(20.6)	.220(5.6)	1.98(50.2)	■	C5	P53	D1	—	—	82-5374	4
58, 141	Crimp	Crimp	1.41(35.7)	.813(20.6)	.206(5.2)	1.98(50.2)	■	C5	P2	D1	—	—	82-5379†	4
	Clamp	Solder	1.63(41.3)	.813(20.6)	.210(5.3)	1.22(31.0)	C5	P1	D1	—	—	18750‡	3‡	



# Type N jacks and receptacles

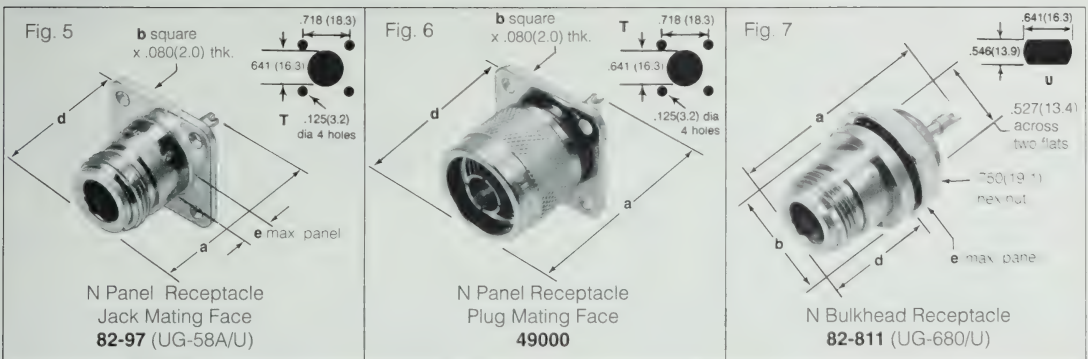


## TYPE N STRAIGHT, PANEL, and BULKHEAD JACKS • female contacts

Cable RG-U	Conn. Type	Cable Attachment		Dimensions, inches (millimeters)					Notes				Mtg Hole	Military Number	Amphenol Number	Fig.
		Outer	Inner	a	b	c •	d	e	CAI	Plt.	Ins.					
8, 9, 87A, 144,165,213, 214,216,225	Jack	Clamp	Solder	1.56(39.7)	.750(19.1)	.440(11.2)	—	—	C4	P1	D1	—	UG-23B		<b>82-63</b>	1
	Panel Jack	Clamp	Solder	1.56(39.7)	1.00(25.4)	.440(11.2)	.656(16.7)	.187 (4.7)▲	C4	P1	D1	T	UG-22B		<b>82-62</b>	2
	Bulkh Jack	Clamp	Solder	1.75(44.5)	.875(22.2)	.440(11.2)	.918(23.3)	.250(6.4)	C4	P1	D1	U	UG-160A		<b>82-67</b> *	3
55, 142, 223	Bulkh Jack	Crimp	Crimp	1.84(46.8)	.875(22.2)	.220(5.6)	.935(23.7)	.250(6.4)	C5	P53	D1	U	—		<b>82-5373</b>	4
58, 141	Jack	Clamp	Solder	1.50(38.1)	.625(15.9)	.214(5.4)	—	—	C4	P1	D1	—	—		<b>35025</b>	1
58, 141	Bulkh Jack	Crimp	Crimp	1.74(44.1)	.872(22.1)	.206(5.2)	.935(23.7)	.250(6.4)	C5	P53	D1	U	—		<b>82-5378</b>	4
59,62,71,	Jack	Clamp	Solder	1.63(41.3)	.688(17.5)	.257(6.5)	—	—	C4	P1	D6	—	UG-602		<b>36500</b>	1

▲ accommodates cable diameter

\* IBM 6028495

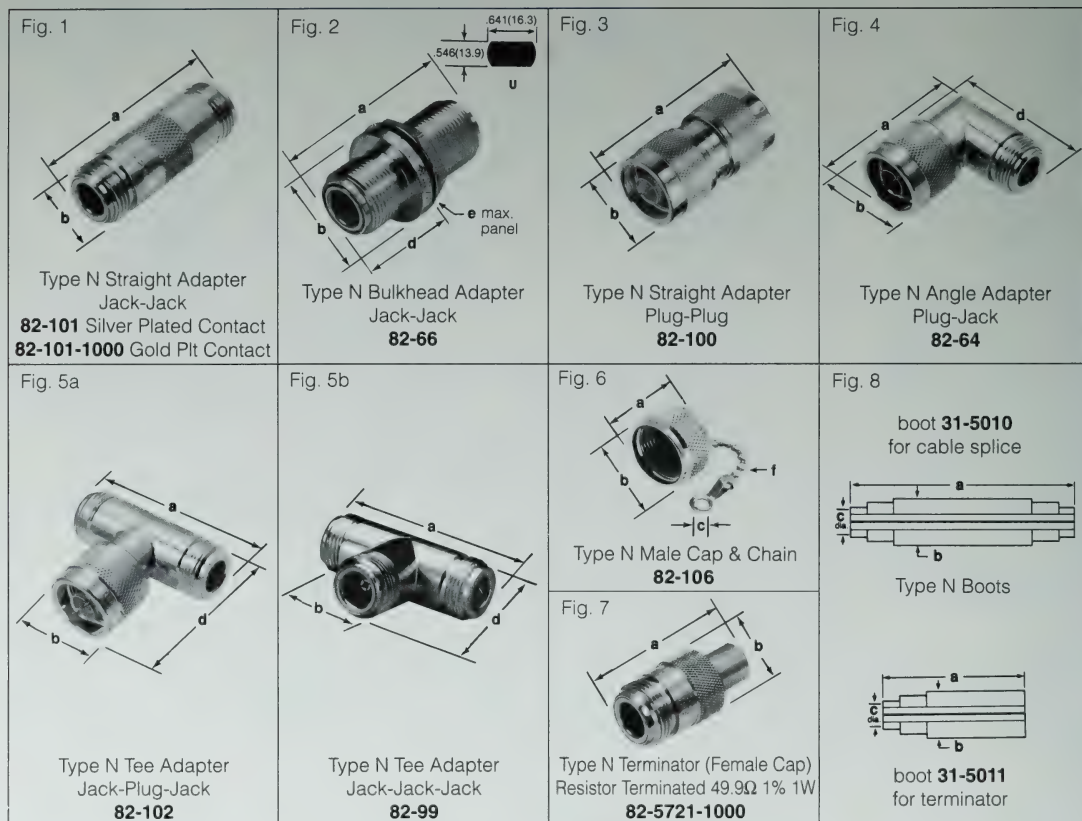


## TYPE N RECEPTACLES

Description	Terminal Type	Dimensions, inches (millimeters)				Notes		Mtg Hole	Military Number	Amphenol Number	Fig.
		a	b	d	e	Plt.	Ins.				
Panel Receptacle (Jack) 4-hole Square Flange, Front or Rear Mount	Solder Cup	1.11(28.2)	1.00(25.4)	.656(16.7)	.187(4.7)▲	P1	D1	T	UG-58A	<b>82-97</b>	5
Panel Receptacle (Plug) 4-hole Square Flange, Front Mount	Solder Cup	1.09(27.8)	1.00(25.4)	.718(18.2)	—	P1	D6	T	—	<b>49000</b>	6
Bulkhead Receptacle (Jack) Front Mount, Pressurized w/Glass Seal, Gasketed	Solder Cup	1.58(40.1)	.813(20.6)	.842(21.4)	.209(5.3)	P1	D11	U	UG-680	<b>82-811</b>	

▲ max. panel when rear mounted thru panel

## Type N adapters & accessories



### Type N ADAPTERS

Adapter Ends	Description	Dimensions, inches (millimeters)				Mtg Hole	Construction Notes			Military Number	Amphenol Number	Fig.
		a	b	d	e		Plt.	Ins.	Other			
Jack-Jack	Straight	1.78(45.2)	.656(16.7)	—	—	—	P1	D1	—	UG-29B	<b>82-101</b>	1
Jack-Jack	Bulkhead	1.63(41.3)	.813(20.6)	.708(18.0)	.312(7.9)	U	P1	D6	Pressurized	UG-30	<b>82-101-1000</b>	1
Plug-Plug	Straight	1.59(40.5)	.813(20.6)	—	—	—	P1	D1	—	UG-57B	<b>82-100</b>	3
Jack-Plug	Angle	1.44(36.5)	.813(20.6)	1.37(34.9)	—	—	P1	D1	Mitre Body	UG-27A	<b>82-64</b>	4
Jack-Plug-Jack	Tee	1.75(44.5)	.813(20.6)	1.48(37.6)	—	—	P1	D1	—	UG-107B	<b>82-102</b>	5a
Jack-Jack-Jack	Tee	1.75(44.5)	.656(16.7)	1.22(31.0)	—	—	P1	D1	—	UG-28A	<b>82-99</b>	5b

### Type N ACCESSORIES

Description	Dimensions, inches (millimeters)				Notes			Military Number	Amphenol Number	Fig.
	a	b	c	f	Plt.	Ins.	Other			
Male Cap & Chain	.563(14.3)	.750(19.1)	.144(3.7)	1.75(44.5)	P3	—	—	MX-913	<b>82-106</b>	6
Female Cap Terminator, 49.9Ω 1%, 1 Watt	1.30(33.0)	.656(16.7)	—	—	P2	D1	—	—	<b>82-5721-1000</b>	7
Boot for Cable Splice	5.48(139.2)	1.45(36.9)max.	.425(10.8)	—	—	—	—	—	<b>31-5010</b>	8
Boot for Terminator	3.53(89.7)	1.41(35.7)max.	.425(10.8)	—	—	—	—	—	<b>31-5011</b>	8



# Type N assembly instructions - C5

## CRIMP TYPES



Amphenol Number	Connector Type	Cable RG-/U	Strip Dimensions, Inches (mm)			Hex Crimp Data								
			a	b	c	Cavity for Contact	Cavity for Outer Ferrule	Die Set for Tool 227-944‡	CTL Series Tool Number					
82-340	N Plug	8, 213	.531(13.5)	.234(6.0)	.141(3.6)	.100(2.5)	.429(10.9)	227-1221-25	CTL-3					
82-342	N Plug	11, 149												
82-4425	N Plug	214, 225, 393	.687(17.4)	.281(7.1)	.187(4.7)									
82-4426-1001	N Plug	Ethernet Cables												
82-4440	N Angle Plug	214, 225, 393	.531(13.5)	.234(6.0)	.141(3.6)	.100(2.5)	.213(5.4)	227-1221-57						
82-5370	N Plug	55, 142, 223												
82-5373	N Bulkh. Jack													
82-5374	N Angle Plug	55, 142, 223	.687(17.4)	.281(7.1)	.187(4.7)									
82-5375	N Plug	58, 141								.531(13.5)	.234(6.0)	.141(3.6)		
82-5378	N Bulkh. Jack	58, 141	.610(15.5)											
82-5379	N Angle Plug	58, 141	.687(17.4)	.281(7.1)	.187(4.7)									

‡ Also for use in Pneumatic Crimp Tools 227-60.

### Step 1



**Step 1** Strip cable jacket, braid, and dielectric to dimensions shown. All cuts are to be sharp and square.

**Important:** do not nick braid, dielectric, and center conductor. Tinning of center conductor is not necessary if contact is to be crimped. For solder method, tin center conductor avoiding excessive heat.

### Step 2



**Step 2** Slide outer ferrule onto cable as shown. Flare slightly end of cable braid as shown to facilitate insertion of inner ferrule. **Important:** Do not comb out braid.

Place contact on cable center conductor so it butts against cable dielectric. Center conductor should be visible through inspection hole in contact. Crimp or solder contact in place as follows:

**Crimp Method:** Use Die Set Cavity for contact indicated in table above.

**Solder Method:** Soft solder contact to cable center conductor. Do not get any solder on outside surface of contact. Avoid excessive heat to prevent swelling of dielectric.

### Step 3



**Step 3** Install cable assembly into body assembly so inner ferrule portion slides under braid. Push cable assembly forward until contact snaps into place in insulator.

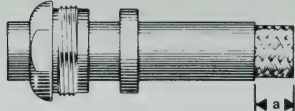
Slide outer ferrule over braid and up against connector body. Crimp outer ferrule using Die Set Cavity specified in table above.

# Type N assembly instructions - C4

## CLAMP TYPES



### Step 1



### Step 2



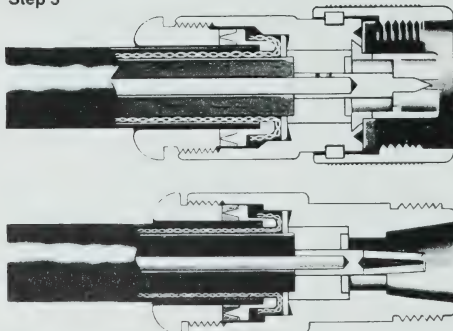
### Step 3



### Step 4



### Step 5



Amphenol Number	Connector Type	Cable RG/U	Strip Dims., inches (mm)	
			a	c
82-61	N Plug	8, 9, 144, 165, 213, 214, 216, 225	.359(9.1)	.234(6.0)
82-62	N Panel Jack		.312(7.9)	.187(4.7)
82-63	N Jack	8, 9, 87A, 144, 165, 213, 214, 216, 225	.281(7.1)	.156(4.0)
82-67	N Bulkhead Jack			
82-202	N Plug	8, 9, 144, 165, 213, 214, 216, 225	.359(9.1)	.234(6.0)
82-202-1006	N Plug	Belden 9913	.359(9.1)	.234(6.0)
82-835	N Angle Plug	8, 9, 87A, 144, 165, 213, 214, 216, 225	.281(7.1)	.156(4.0)
18750	N Angle Plug		.484(12.3)	.234(5.9)
34025	N Plug	58, 141, 142	.390(9.9)	.203(5.2)
34525	N Plug	59, 62, 71, 140, 210	.410(10.4)	.230(5.8)
35025	N Jack	58, 141, 142	.375(9.5)	.187(4.7)
36500	N Jack	59, 62, 71, 140, 210	.484(12.3)	.200(5.1)

**Step 1** Place nut and gasket, with "V" groove toward clamp, over cable and cut off jacket to dim. **a**.

**Step 2** Comb out braid and fold out. Cut off cable dielectric to dim. **c** as shown.

**Step 3** Pull braid wires forward and taper toward center conductor. Place clamp over braid and push back against cable jacket.

**Step 4** Fold back braid wires as shown, trim braid to proper length and form over clamp as shown. Solder contact to center conductor.

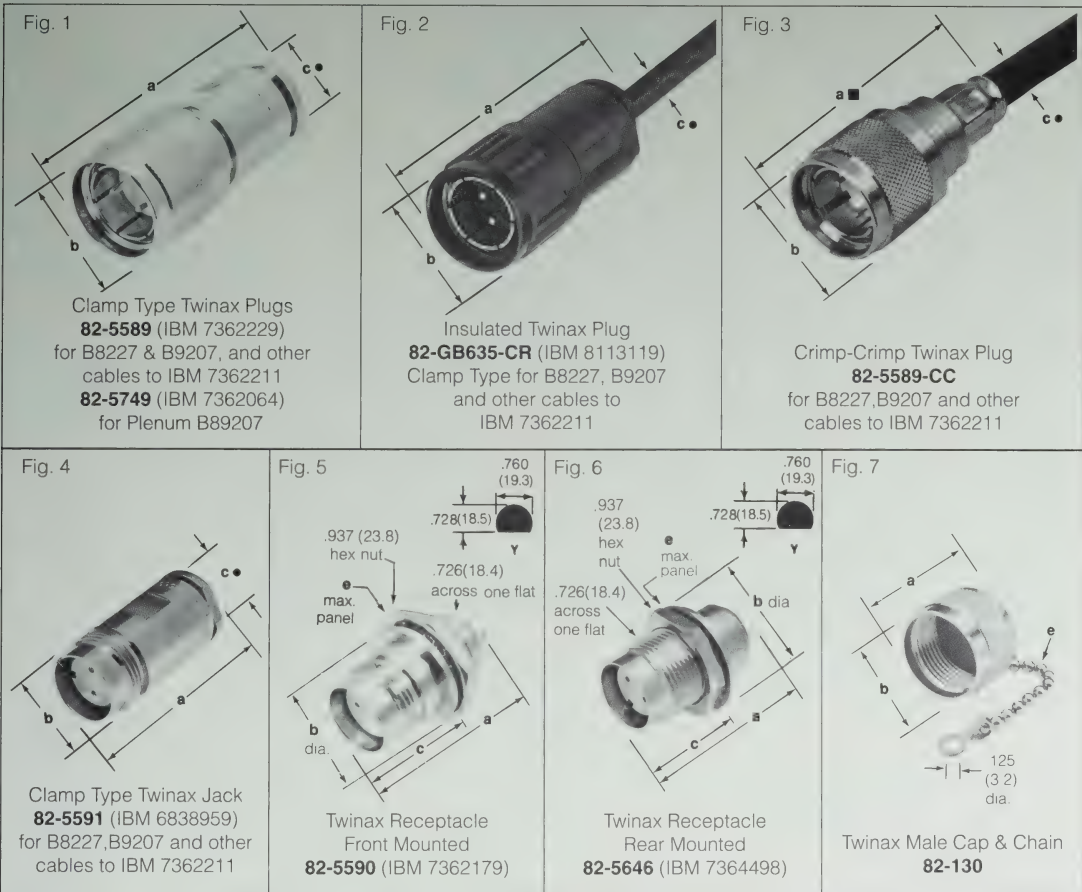
**Step 5** Insert cable and parts into connector body. Make sure sharp edge of clamp seats properly in gasket. Tighten nut.



## TWINAX connectors

Amphenol® Keyed 90° 3/4-20 thread Twinax connectors are used principally in system 3X/400 applications for balanced line high sensitivity circuits. Normally used on 100Ω

twinaxial cable, these units operate DC-200 MHz (usable to 500 MHz) with a voltage rating of 500 V peak. See specifications page 18.



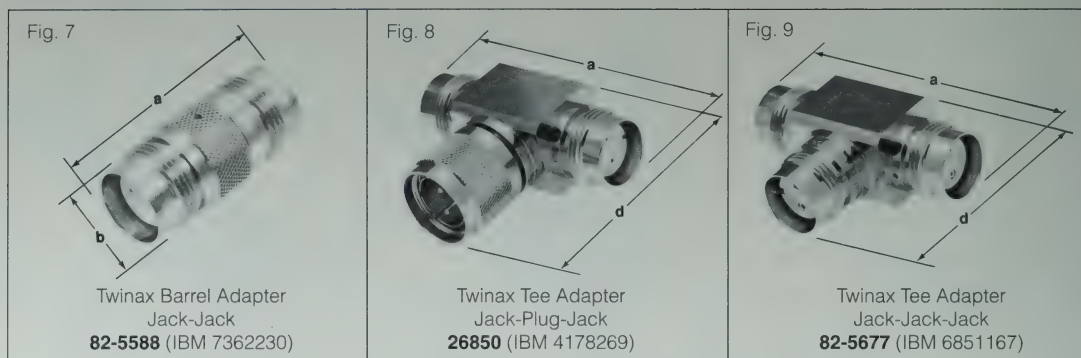
### KEYED 90° TWINAX CONNECTORS • twin contacts • 3/4-20 thread mating

Cable/ Description		Cable Attachment		Dimensions, inches (millimeters)				Notes			MTG hole	IBM Ref. Number	Amphenol Number	Fig.
		Outer	Inner	a	b	c	e	CAI	Pit.	Ins.				
Times AA-6026, AA-6076, AA-6079 Brand Rex T8756A Belden 8227, 9207 IBM 7362211	Plug	Clamp	Solder or Crimp	1.89(48.0)	.890(22.6)	.340(8.7)*	—	C6	P1	D12	—	7362229	<b>82-5589</b>	1
	Plug	Crimp	Crimp	1.85(47.0)	.890(22.6)	.340(8.7)*	—	C7	P1	D9	—	—	<b>82-5589-CC</b>	3
	Plug	Clamp	Solder or Crimp	1.85(47.0)	.886(22.5)	.340(8.7)*	—	C6	P11	D13	—	8113119	<b>82-GB635-CR</b>	2
	Jack	Clamp	Solder or Crimp	1.75(44.5)	.750(19.1)	.340(8.7)*	—	C6	P2	D12	—	6838959	<b>82-5591</b>	4
Plenum Twinax Belden 89207 Times AA-6077	Plug	Clamp	Solder or Crimp	1.85(47.0)	.890(22.6)	.281(7.1)*	—	C6	P1	D12	—	7362064	<b>82-5749</b>	1
Receptacle, Front Mount, Solder Cup Terminals	—	—	—	1.60(40.6)	.937(23.8)	.710(18.0)	.190(4.8)	—	P1	D12	Y	7362179	<b>82-5590</b>	5
Receptacle, Rear Mount, Solder Cup Terminals	—	—	—	1.60(40.6)	.937(23.8)	.820(20.8)	.250(6.4)	—	P1	D12	Y	7364498	<b>82-5646</b>	6
Male Cap & Chain	—	—	—	.594(15.1)	.875(22.2)	—	2.56(65.1)	—	P4	—	—	—	<b>82-130</b>	7
Pkg of 50 Male Contacts for 82-5589, 82-5589-CC, 82-5749	—	—	—	.740(18.8)	.090(2.3)	.043(1.1)*	—	C6/7	P55	—	—	—	<b>82-10588</b>	N/I

■ To end of crimp ferrule

• Accommodates cable dia

## TWINAX adapters



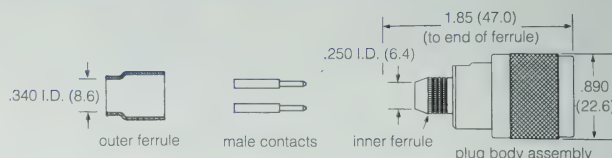
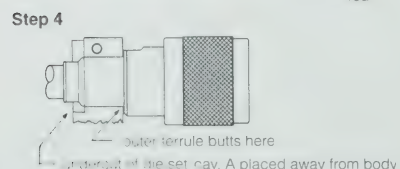
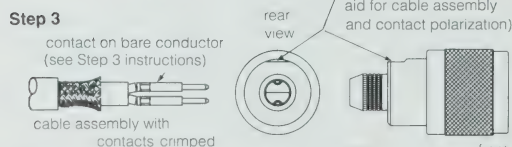
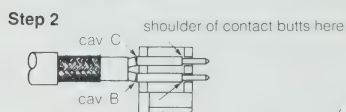
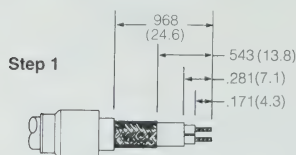
### KEYED 90° TWINAX ADAPTERS • twin contacts • 3/4-20 thread mating

Description	Cable Attachment		Dimensions, inches (millimeters)				Notes			MTG hole	IBM Ref. Number	Amphenol Number	Fig.
	Outer	Inner	a	b	d	e	CAI	Plt.	Ins.				
Barrel Adapter Jack - Jack	—	—	1.67(42.5)	.794(20.7)	—	—	—	P1	D12	—	7362230	<b>82-5588</b>	7
Tee Adapter Jack - Plug - Jack	—	—	2.41(61.1)	—	1.87(47.6)	—	—	P1	D1	—	4178269	<b>26850</b>	8
Tee Adapter Jack - Jack - Jack	—	—	2.41(61.1)	—	1.62(41.3)	—	—	P1	D12	—	6851167	<b>82-5677</b>	9

## Crimp-Crimp TWINAX assembly instructions - C7

### 82-5589-CC

dimensions, inches (millimeters)



**Step 1** Slide outer ferrule over cable end as shown. Strip cable to dimensions shown. All cuts are to be sharp and square.

**Important:** Do not nick insulation around center conductors.

**Step 2** Place center contacts on center conductors until they bottom against cable dielectric. Crimp contacts using CTL Series tool number CTL-4 cavities B & C; or by using Die Set 227-1414, cavities B & C, in Tool Frame 227-944 or in Pneumatic Crimp Tool 227-60.

**Note:** Position shoulder of contacts against inner shoulder of die set as shown.

**Step 3** To install cable assembly into body assembly, flare slightly end of cable braid as shown. This will facilitate insertion of inner ferrule.

**Important:** Do not comb out braid. Align contacts by using flat on body as a visual guide to insure proper positioning into body. For Belden 9207 and similar solid core cables, contact on bare copper conductor (or for Belden 8227 and similar air dielectric cables, the contact on white insulated conductor) goes into hole located on flat side. Push cable assembly forward until contacts bottom in front insulator.

**Note:** Inner ferrule portion slides under braid.

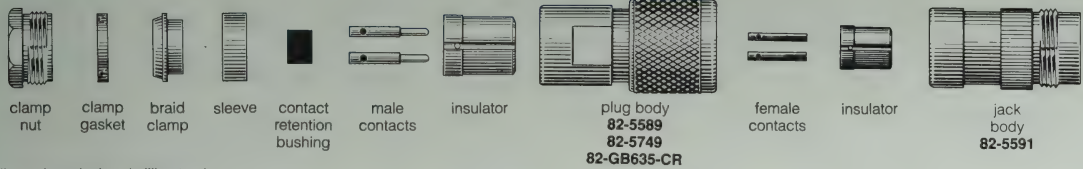
**Step 4** Slide outer ferrule over braid and up against connector body. Crimp outer ferrule using CTL Series tool number CTL-4 cavity A; or by using die set 227-1414, cavity A, in tool frame 227-944 or in Pneumatic Crimp Tool 227-60.

**Note:** Position crimp die over outer ferrule as shown, with undercut of cavity A facing away from body

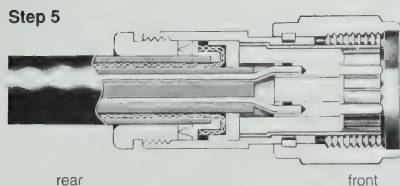
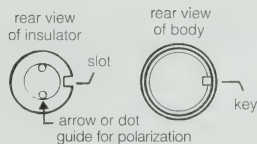
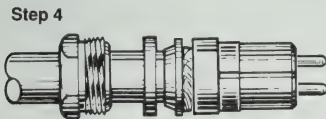
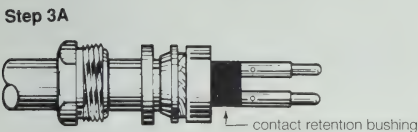
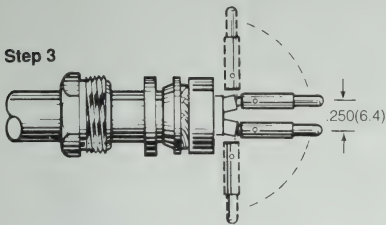
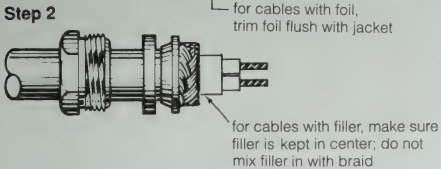
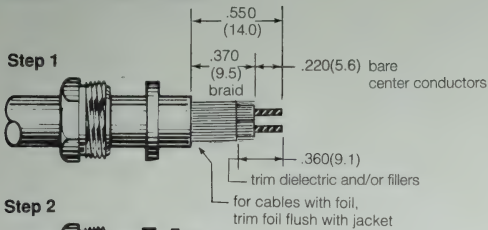


# Twinax assembly instructions - C6

## CLAMP TYPES



dimensions, inches (millimeters)



**Step 1** Slide clamp nut and clamp gasket over cable end. V-groove in clamp gasket faces toward connector body. Strip cable to dimensions shown. **Important:** Do not nick insulation around center conductors. For solid core cables, lay braid back out of way while trimming core; then lay braid down again to facilitate Step 2.

**Step 2** Slide braid clamp over braid until inner shoulder butts against jacket. (Note: sharp edge of braid clamp goes toward V-groove in clamp gasket.) Fold braid back evenly over braid clamp as shown.

**Step 3** Slide sleeve over cable so that braid bottoms inside sleeve. Solder contacts to conductors, using minimum heat. Remove any excess solder. Alternative method: Crimp center contacts using CTL Series tool number CT L-4 cavities B & C; or by using Die Set 227-1414 cavities B & C in tool frame 227-944 or in Pneumatic Crimp Tool 227-60. Bend conductors and contacts out and back to obtain .250(6.4) spacing between contacts.

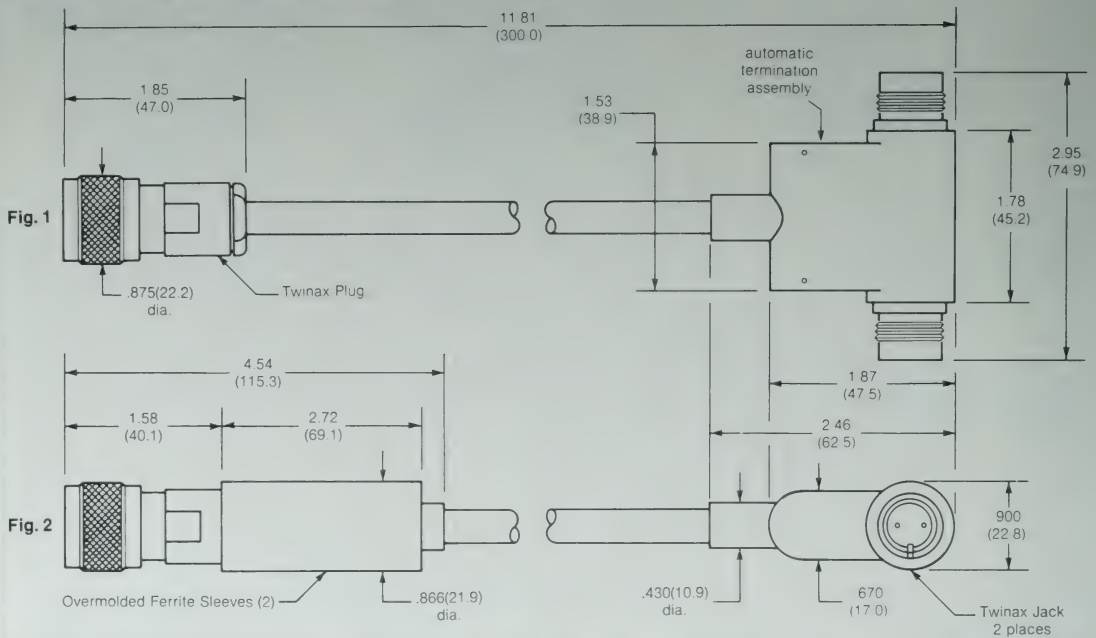
**Step 3A** (for connectors with contact retention bushing) Insert contact retention bushing between cable conductors as shown. Wide-slotted end of bushing goes toward sleeve. (Bushing is used with solid core cables and not with air dielectric cables.)

**Step 4** Insert contacts into rear of insulator. (Note: for Belden 9207 and similar solid core cables, contact on bare copper conductor [or for Belden 8227 and similar air dielectric cables, the contact on white insulated conductor] goes into hole with arrow/dot next to it.) Slide insulator to butt against sleeve as shown.

**Step 5** Insert assembly into connector body, aligning slot of insulator with polarizing key in body. For 82-GB635-CR tighten clamp nut to 11 lbf-in. (1.2 N-m) torque. For metal-bodied connectors, tighten clamp nut to 50 lbf-in. (5.7 N-m) torque.

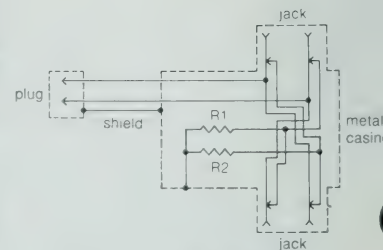
## TWINAX T-assemblies

### dimensions, inches (millimeters)



### order information — for T-assemblies and mating right-angle PCB receptacles

Twinax T-assemblies*				(T-assembly Plug mates with) Right-Angle Twinax PCB Receptacles		
Amphenol Part No.	IBM Cross-ref.	Fig.	Construction Notes	Amphenol Part No.‡	IBM Cross-ref.	PCB Thickness, in.(mm)
95-555-11101	6457102	1	Can be used on Monochrome and Color monitors as needed.†	82-5841-1062	6457101	.062(1.6)
				82-5841-1090	—	.090(2.3)
				82-5841-1125	—	.125(3.2)
95-555-11102	11F7406	2	Same as 11101, except with overmolded ferrite sleeves ‡	82-5841-1062	6457101	.062(1.6)
				82-5841-1090	—	.090(2.3)
				82-5841-1125	—	.125(3.2)
95-560-111XX	—	3	Item shown is 95-560-11103 with 15 contact D-Sub female.	Various D-Sub configurations are available to customer specification. Contact your Amphenol RF Sales Engineer or call the factory: 203-743-9272		



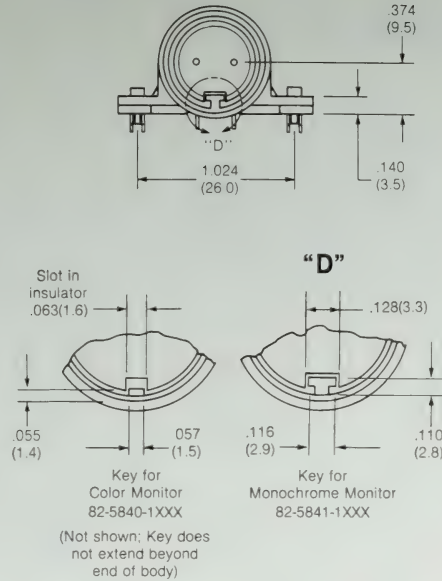
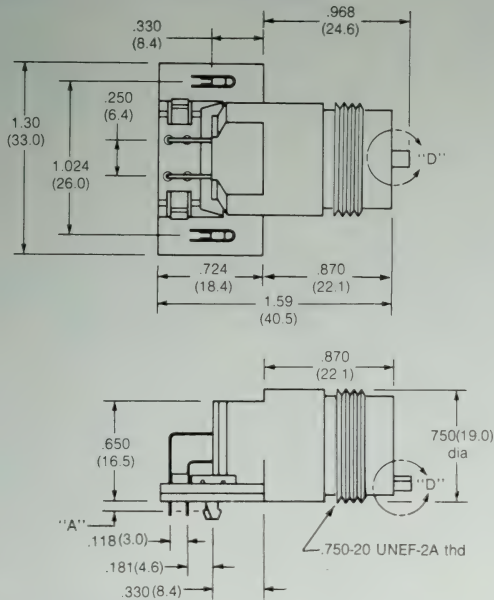
\* The Twinax Jacks on all T-assemblies mate with Amphenol Twinax Plugs 82-5589 (IBM 7362229), 82-5589-CC, 82-GB635-CR (IBM 8113119).

† The Twinax Plug on the T-assemblies will mate with both the standard color monitor (82-5840-1XXX) receptacles and the extended monochrome monitor (82-5841-1XXX) receptacles.

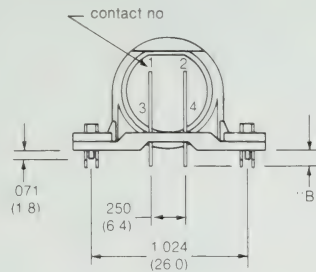
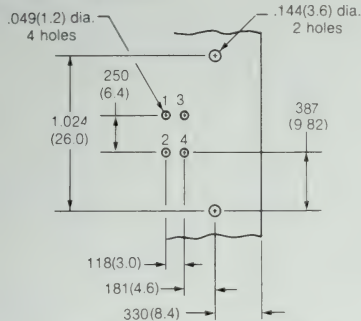


# TWINAX right angle printed circuit board receptacles

## dimensions, inches (millimeters)

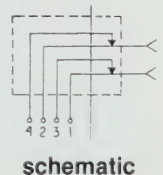


## mounting detail



## order information — for right-angle PCB receptacles and mating plugs

Monitor Type	Right-Angle Twinax PCB Receptacles					Mating Twinax Plugs		
	Amphenol Part No.	IBM Cross-ref.	Dimensions, in.(mm)			Amphenol Part No.	IBM Cross-ref.	Construction Notes
			"A" PC Board Thickness	"B" Clip Length				
Color	82-5840-1062	6342826	.062(1.6)	.118(3.0)		82-5589	7362229	—
	82-5840-1090	—	.090(2.3)	.146(3.7)		82-5589-1007	—	Flammability rated 94V-1
	82-5840-1125	—	.125(3.2)	.181(4.6)		82-5589	7362229	—
	82-5840-1125	—	.125(3.2)	.181(4.6)		82-5589-1007	—	Flammability rated 94V-1
Mono-Chrome	82-5841-1062	6457101	.062(1.6)	.118(3.0)		82-5589	7362229	—
	82-5841-1090	—	.090(2.3)	.146(3.7)		82-5589-1006	—	Flammability rated 94V-1
	82-5841-1125	—	.125(3.2)	.181(4.6)		82-5589-1006	—	Flammability rated 94V-1

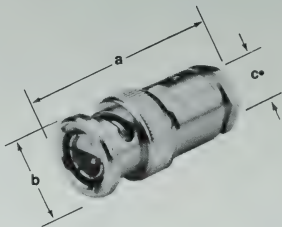


## Twin-BNC connectors

Amphenol® Twin-BNC connectors are designed for use with miniature twin conductor cables such as RG-108A. Correct mating of the twin conductors is achieved by use of polarized contacts (the two contacts in each mating face consist

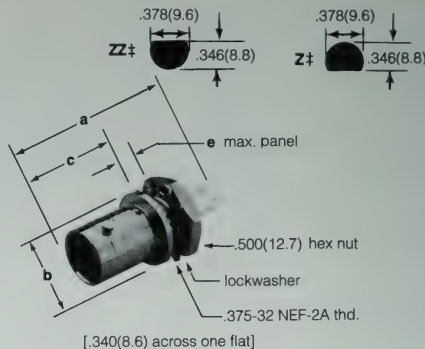
of one pin and one socket) and bayonet lock coupling. Frequency range is 0-100 MHz with voltage rating of 100 V peak. See specifications, page 18.

Fig. 1



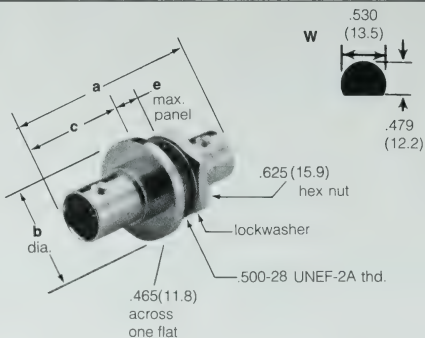
Twin-BNC Clamp Type Plug for RG-108A  
**31-224** (Noryl Ins.)  
**31-226** (TFE Ins.)

Fig. 2



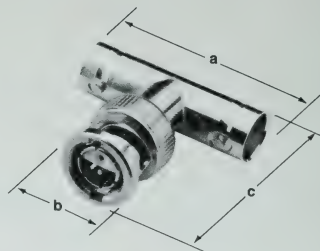
Twin-BNC Bulkhead Receptacle (Jack)  
**31-223** Noryl Ins., Mtg. Hole Z‡  
**31-225** TFE Ins., Mtg. Hole ZZ‡

Fig. 3



Twin-BNC Bulkhead Adapter - Jack/Jack  
**31-4555**

Fig. 4



Twin-BNC Tee Adapter  
**31-5638** Jack-Plug-Jack  
**31-5095** Jack-Jack-Jack (Not Shown)

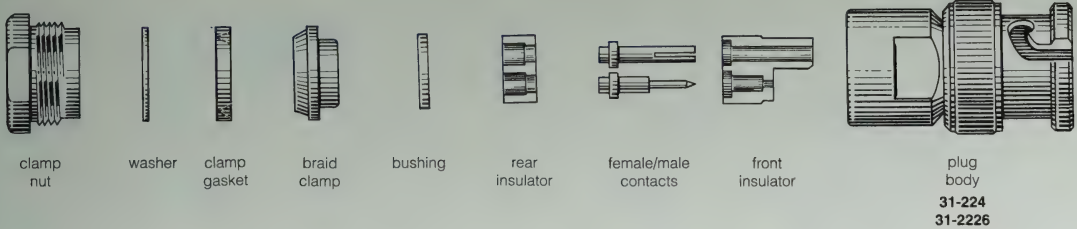
### Twin-BNC PLUGS, RECEPTACLES & ADAPTERS

Cable RG-/U	Conn. Type	Cable Attachment		Dimensions, inches (millimeters)				Construction Notes				Mtg. Hole	Military Number	Amphenol Number	Fig.
		Outer	Inner	a	b	c	e	CAI	Plt.	Ins.	Other				
108A	Plug	Clamp	Solder	1.16(29.4)	.563(14.3)	.255(6.5)•	—	C27	P1	D19	Noryl Ins.	—	—	31-224	1
										D1	TFE Ins.	—	—	31-226	
Bulkhead Receptacle (Jack) Front Mount				1.03(26.2)	.500(12.7)	.531(13.5)	.106(2.7)	—	P1	D19	Noryl Ins.	Z‡	—	31-223‡	2
										D1	TFE Ins.	ZZ‡	—	31-225‡	
Bulkhead Adapter (Jack/Jack)				1.35(34.3)	.630(16.0)	.528(13.4)	.218(5.5)	—	P1	D1	TFE Ins.	W	—	31-4555	3
Tee Adapter (Jack/Plug/Jack)				1.28(32.5)	.562(14.3)	1.18(30.0)	—	—	P1	D1	TFE Ins.	—	—	31-5638	4
Tee Adapter (Jack/Jack/Jack)				1.28(32.5)	.437(11.1)	.890(22.6)	—	—	P1	D1	TFE Ins.	—	—	31-5095	N/I

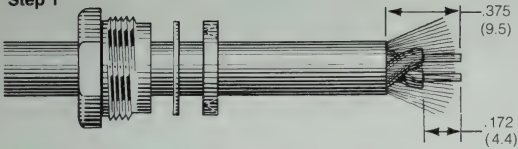
‡ NOTE: Use mounting hole as shown to assure proper orientation of solder cups. • Accommodates cable diameter



## Twin-BNC assembly instructions - C27

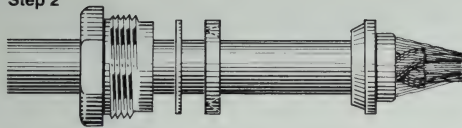


### Step 1



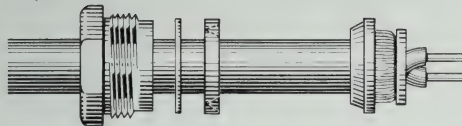
**Step 1** Cut end of cable sharp and square. Slide clamp nut, washer and clamp gasket over jacket. Strip jacket to dimension shown. Comb out braid and fold out. Bare conductors to dimension shown.

### Step 2



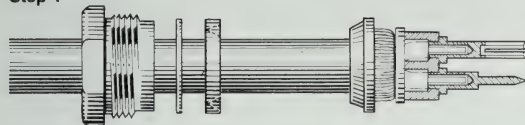
**Step 2** Pull braid forward and taper toward conductors. Slide braid clamp over braid as shown and push against cable jacket.

### Step 3



**Step 3** Fold back braid, trim to proper length and evenly form over braid clamp as shown. Slide on bushing. Tin center conductors using minimum amount of heat.

### Step 4



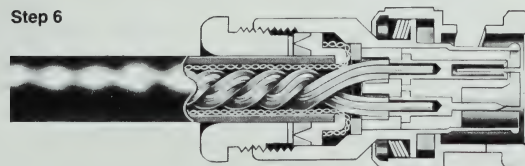
**Step 4** Bend conductors out as necessary for alignment and slide on rear insulator. Solder contacts. Remove any excess solder from contact O.D.

### Step 5



**Step 5** Slide front insulator over contacts and butt against contact shoulders as shown.

### Step 6



**Step 6** Insert prepared cable termination into connector body. Make sure sharp edge of braid clamp seats properly in V-groove clamp gasket. Tighten nut securely.

## BNC coaxial connectors\*

Amphenol® BNC connectors are miniature 50Ω units which operate with low reflection DC-4 GHz on 50Ω cables and

DC-500 MHz on 75 ohm cables. The voltage rating is 500 V peak. See specifications, page 20.

Fig. 1

BNC  
3 Piece  
Crimp Type  
Plugs



Fig. 2

BNC  
SURETWIST®  
Plugs

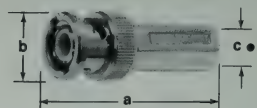


Fig. 3

BNC  
Clamp Type  
Plugs

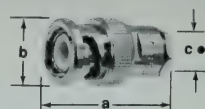


Fig. 4

BNC  
QUICKTRIM®  
Plugs



Cables	Connectors
RG-58	<b>31-320</b>
	<b>31-4320</b> (M39012/16-0013)
Plenum 58	<b>36650-1003</b>
RG-59, 62	<b>31-321</b>
	<b>31-4321</b> (M39012/16-0015)
RG-59 (20 AWG Ctr Cond.)	<b>68175-1005</b>
Plenum 59, 62	<b>68175-1011</b>
RG-122, Belden 8218	<b>31-325</b>
RG-174, 188, 316	<b>31-315</b>
Dbl. Br. RG-316	<b>31-315-1005</b>
RG-179, 187	<b>31-242</b>
Belden 8213	<b>31-4411</b>
Belden 8281, 88281	<b>31-321-1000</b>
Belden 9259	<b>68175-1003</b>
Thinnnet, Belden 9907, 89907	<b>31-320-1006</b>

RG-58	<b>31-5137</b>
RG-59, 62	<b>31-5136</b>
Plenum 59, 62	<b>31-5369</b>
Belden 8281	<b>31-5151</b>
RG-58	<b>31-202</b> (UG-88C)
RG-59, 62	<b>31-212</b> (UG-260B)
RG-122, Belden 8218	<b>84975</b> (UG-1033)
RG-59, 62	<b>31-4541</b> (IBM 1836444)
PL62 (IBM 4885584)	<b>31-5060</b> (IBM 4449035)
Belden 9268	<b>31-4542</b> (IBM 1836447)

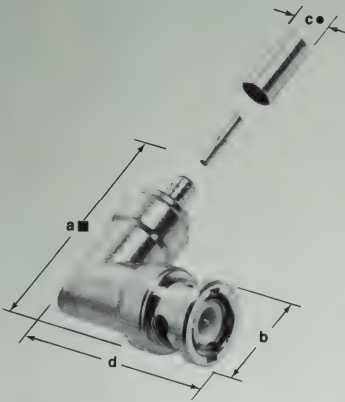
### BNC PLUGS • 2 stud bayonet mating • 50Ω impedance

Cable RG-/U	Cable Attachment		Dimensions, inches (millimeters)			Construction Notes				Military Number	Amphenol Number	Fig.	
	Outer	Inner	a	b	c •	CAI	Pit.	Ins.	Other				
55, 58, 141, 142, 223, 400	Crimp	Crimp	1.11(28.2)	.562(14.3)	.206(5.2)	C9	P2	D1		M23329/3-01,3-03	31-320	☆	1
			—	—	—	—	—	—	—	—	36775		1
	Clamp	Solder	1.12(28.5)	.562(14.3)	.206(5.2)	C9	P6	D1		M39012/16-0013	31-4320		1
			1.06(27.0)	.562(14.3)	.224(5.7)	C10	P1	D1		UG-88C	31-202	☆	3
	SURETWIST®		.969(24.6)	.562(14.3)	.212(5.4)	C10	P1	D1		UG-88	31-2		
Plenum 58	Crimp	Crimp	1.47(37.3)	.562(14.3)	.181(4.6)	C11	P12	D15		—	31-5137		2
			1.11(28.2)	.562(14.3)	.175(4.4)	C9	P1	D1		—	36650-1003		1
59, 62, 140, 210	Crimp	Crimp	1.12(28.5)							M23329/3-05	31-321	☆	1
			1.20(30.5)	.562(14.3)	.261(6.6)	C9	P2	D1		—	68175		
			1.12(28.5)							—	68175-1004		
			1.12(28.5)	.562(14.3)	.261(6.6)	C9	P6	D1		M39012/16-0015	31-4321		1
	Clamp	Solder	1.10(27.9)	.562(14.3)	.255(6.5)	C10	P1	D1		UG-260B	31-212		3
	SURETWIST®		1.47(37.3)	.562(14.3)	.219(5.6)	C11	P12	D15		—	31-5136		2
	QUICKTRIM®		1.03(26.2)	.562(14.3)	.252(6.2)	C12	P1	D1	IBM 1836444	(WANG 350-2075)	31-4541		4
59 (20 AWG Ctr Cond)	Crimp	Crimp	1.11(28.2)	.562(14.3)	.261(6.6)	C9	P2	D1		—	68175-1005		1
Plenum 59, 62	Crimp	Crimp	1.11(28.2)	.562(14.3)	.216(5.5)	C9	P2	D1		—	68175-1011		1
	SURETWIST®		1.47(37.3)	.562(14.3)	.181(4.6)	C11	P12	D15		—	31-5369		2
122, Belden 8218	Crimp	Crimp	1.11(28.2)	.562(14.3)	.175(4.4)	C9	P53	D1		—	31-325		1
	Clamp	Solder	1.06(27.0)	.562(14.3)	.175(4.4)	C10	P1	D1		UG-1033	84975		3
PL62 (IBM 4835584)	QUICKTRIM®		1.07(27.3)	.562(14.3)	.235(6.0)	C12	P1	D1	IBM 4449035	—	31-5060		4
174, 188, 316	Crimp	Crimp	1.19(30.2)	.562(14.3)	.117(3.0)	C9	P2	D1		—	31-315		1
Dbl. Br. RG-316	Crimp	Crimp	1.11(28.2)	.562(14.3)	.135(3.4)	C9	P54	D1		—	31-315-1005		1
179, 187	Crimp	Crimp	1.19(30.2)	.562(14.3)	.117(3.0)	C9	P2	D1		—	31-242		1
Belden 8281, 88281	Crimp	Crimp	1.21(30.7)	.562(14.3)	.342(8.7)	C9	P2	D1		—	31-321-1000		1
Amphenol 21-1060-7	SURETWIST®		1.47(37.3)	.562(14.3)	.274(7.0)	C11	P12	D15		—	31-5151		2
Belden 8213	Crimp	Crimp	1.59(40.4)	.562(14.3)	.418(10.6)	C9	P54	D1		—	31-4411		1
Belden 9259	Crimp	Crimp	1.11(28.2)	.562(14.3)	.261(6.6)	C9	P2	D1		—	68175-1003		1
Belden 9268	QUICKTRIM®		1.03(26.2)	.562(14.3)	.275(7.0)	C12	P1	D1	IBM 1836447	—	31-4542		4
Belden 9907, 89907	Crimp	Crimp	1.11(28.2)	.562(14.3)	.196(5.0)	C9	P2	D1		—	31-320-1006		1

\* recognized under the component program of U. L., Inc. ☆ preferred for new designs ■ to end of crimp ferrule ‡ to end of clamp nut • accommodates cable diameter

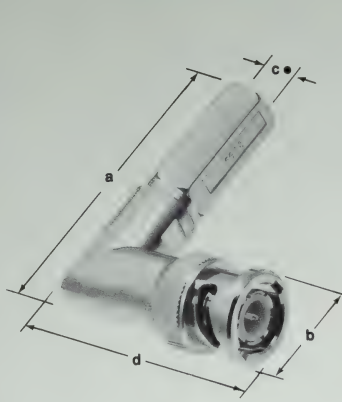
# BNC angle plugs

Fig. 1



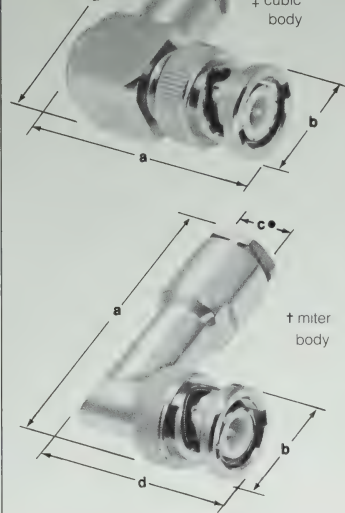
BNC Crimp Angle Plugs  
**31-335** for RG-58  
**31-336** for RG-59, 62

Fig. 2



BNC SURETWIST® Angle Plugs  
**31-5153** for RG-58  
**31-5154** for RG-59, 62  
**31-5155** for Belden 8281,  
 Amphenol 21-1060-7

Fig. 3



BNC Clamp Type Angle Plugs  
**31-204†** for RG-58  
**8575‡** for RG-59, 62

## BNC ANGLE PLUGS • male contacts • 2-stud bayonet mating

Cable RG-/U	Cable Attachment		Dimensions, inches (millimeters)				Notes			Military Number	Amphenol Number	Fig.	
	Outer	Inner	a	b	c •	d	CAI	Plt.	Ins.				
55, 58, 141 142, 223, 400	Crimp	Crimp	1.59(40.5)■	.562(14.3)	.206(5.2)	1.19(30.2)	C9	P2	D1	—	31-335	☆	1
	SURETWIST®		1.56(39.7)■	.562(14.3)	.206(5.2)	1.12(28.6)	C11	P12	D16	—	95600		2
	Clamp	Solder	1.68(42.7)	.562(14.3)	.214(5.5)	1.09(27.8)	C10	P1	D1	UG-913	31-204†		3†
	Crimp	Crimp	1.59(40.5)■	.562(14.3)	.259(6.6)	1.19(30.2)	C9	P2	D1	—	31-336	☆	1
59, 62, 140, 210	SURETWIST®		1.78(45.2)	.562(14.3)	.219(5.6)	1.16(29.5)	C11	P12	D16	—	31-5154		2
	Clamp	Solder	1.00(25.4)	.562(14.3)	.259(6.6)	1.25(31.6)	C10	P2	D1	—	8575‡	☆	3
			1.56(39.7)	.562(14.3)	.259(6.6)	1.06(27.0)				—	86225†		
	Belden 8281 Amphenol 21-1060-7	SURETWIST®		1.78(45.2)	.562(14.3)	—	1.16(29.5)	C11	P12	D16	—	31-5155	

■ to end of crimp ferrule

• accommodates cable diameter

† miter body

‡ = cubic body

☆ = Preferred for new designs

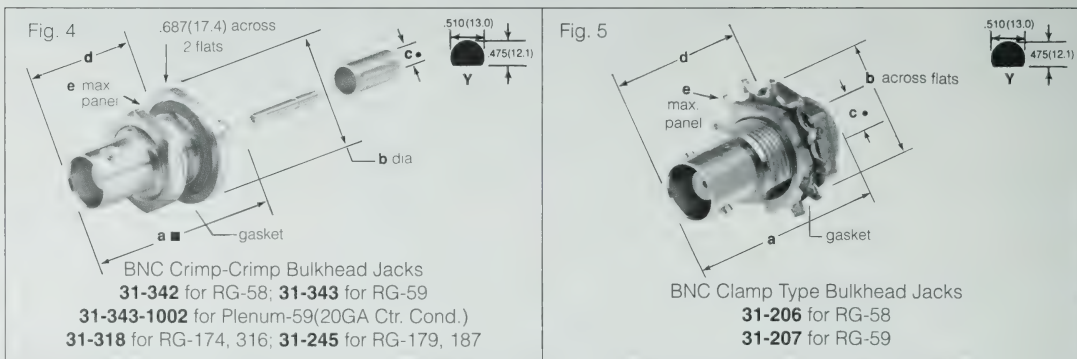


## BNC jacks and bulkhead jacks



### BNC CABLE JACKS • female contacts • 2-stud bayonet mating

Cable RG/U	Cable Attachment		Dimensions, inches (millimeters)			Notes			Military Number	Amphenol Number	Fig.
	Outer	Inner	a	b	c •	CAI	Pit.	Ins.			
58, 141	Crimp	Crimp	1.34(34.1)	.562(14.3)	.206(5.2)	C9	P2	D1	—	<b>36800</b>	1
58, 141, 400	SURETWIST®		1.54(39.1)	.500(12.7)	.181(4.6)	C11	P12	D12	—	<b>31-5139</b>	2
55, 58, 141, 142, 223, 400	Clamp	Solder	1.14(29.0)	.562(14.3)	.214(5.5)	C10	P1	D1	UG-89B	<b>31-205</b>	3
59, 62, 140, 210	Crimp	Crimp	1.34(34.1)	.562(14.3)	.259(6.6)	C9	P2	D1	—	<b>68150</b>	1
	SURETWIST®		1.54(39.1)	.500(12.7)	.219(5.6)	C11	P12	D12	—	<b>31-5138</b>	2
	Clamp	Solder	1.14(29.0)	.562(14.3)	.259(6.6)	C10	P1	D1	UG-261B	<b>31-215</b>	3
59 (20AWG Ctr Cond)	Crimp	Crimp	1.18(30.0)	.510(13.0)	.261(6.6)	C9	P1	D1	—	<b>68150-1002</b>	1
Belden 8281	SURETWIST		1.54(39.1)	.500(12.7)	.275(7.0)	C11	P12	D12	—	<b>31-5152</b>	2
Plenum 59	SURETWIST®		1.54(39.1)	.500(12.7)	.181(4.6)	C11	P12	D12	—	<b>31-5370</b>	2

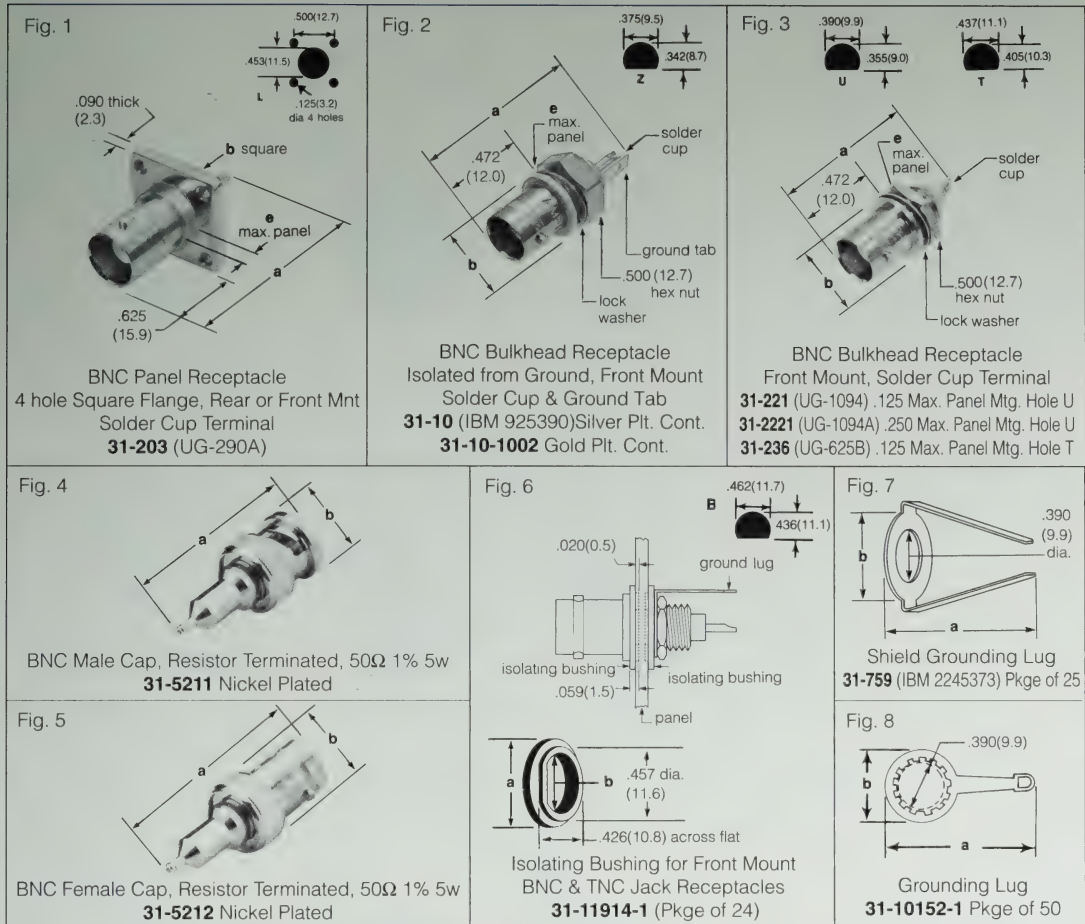


### BNC BULKHEAD CABLE JACKS • female contacts • 2-stud bayonet mating

Cable RG/U	Cable Attachment		Dimensions, inches (millimeters)					Notes			Mtg Hole	Military Number	Amphenol Number	Fig.
	Outer	Inner	a	b	c •	d	e	CAI	Pit.	Ins.				
58, 141	Crimp	Crimp	1.41(35.7)	.795(20.2) dia	.206(5.2)	.812(20.6)	.250(6.4)	C9	P2	D1	Y	M23329/3-15 3-17	<b>31-342</b>	4
55, 58, 141, 142, 223, 400	Clamp	Solder	1.12(28.6)	.687(17.6) hex	.224(5.7)	.798(20.3)	.218(5.5)	C10	P1	D1	Y	UG-909	<b>31-206</b>	5
59, 62, 140, 210	Crimp	Crimp	1.42(36.0)	.795(20.2) dia	.261(6.6)	.812(20.6)	.250(6.4)	C9	P2	D1	Y	M23329/3-19	<b>31-343</b>	4
	Crimp	Solder	1.12(28.6)	.687(17.6) hex	.257(6.5)	.798(20.3)	.218(5.5)	C10	P1	D1	Y	UG-910	<b>31-207</b>	5
Plenum 59	Crimp	Crimp	1.42(36.0)	.795(20.2) dia	.220(5.6)	.812(20.6)	.250(6.4)	C9	P53	D1	Y	—	<b>31-343-1002</b>	4
174, 188, 316	Crimp	Crimp	1.48(37.0)	.795(20.2) dia	.120(3.0)	.812(20.6)	.250(6.4)	C9	P54	D1	Y	—	<b>31-318</b>	4
179, 187	Crimp	Crimp	1.48(37.0)	.795(20.2) dia	.120(3.0)	.812(20.6)	.250(6.4)	C9	P53	D1	Y	—	<b>31-245</b>	4

■ to end of crimp ferrule • accommodates cable diameter

# BNC panel and bulkhead receptacles



## BNC PANEL & BULKHEAD RECEPTACLES, CAPS & ACCESSORIES

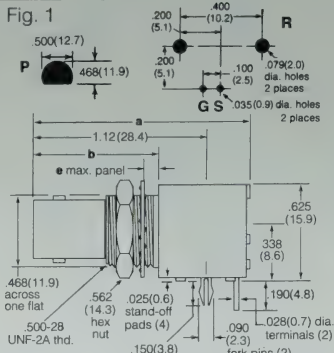
Description	Terminal Type	Dimensions, inches (millimeters)			Plt.	Ins.	MTG Hole	Military Number	Amphenol Number	Fig.
		a	b	e						
Panel Receptacle 4 hole .687"(17.4mm) Square Flange No. 3-56 Tapped Flange Holes	Solder Cup	1.06(27.0)	.687(17.5)	.187(4.8)☆	P1	D1	L	UG-290A	<b>31-203</b>	1
Bulkhead Receptacle, Front Mount, Isolated From Panel, White Molded Thermoplastic Ins.	Solder Cup, Ground Tab	1.19(30.2)	.500(12.7)	.187(4.8)	P1 P56	D12	Z	(IBM 925390)	<b>31-10 +</b> <b>31-10-1002†</b>	2
Bulkhead Receptacle, Front Mount	Solder Cup	1.06(27.0)	.500(12.7)	.125(3.2)	P1	D1	U	UG-1094	<b>31-221▲‡</b>	3
		1.19(30.2)	.562(14.3)	.250(6.4)			T	UG-625B	<b>31-236▲</b>	
Male Cap, Resistor Terminated 50Ω 1% 5w	—	1.25(31.7)	.578(14.7)	—	P54	D1	—	Nickel Plt.	<b>31-5211</b>	4
Female Cap, Resistor Terminated 50Ω 1% 5w	—	1.25(31.7)	.510(13.0)	—	P54	D1	—	Nickel Plt.	<b>31-5212</b>	5
Pkg of 24 Isolating Bushings for Front Mount BNC & TNC Jack Receptacles [Requires 2 Bushings per Receptacle/ Normally used with grounding Lug (31-10152)]	—	.551(14.0)	.378(9.6)	reduce max. panel by .086"	—	D21	B	—	<b>31-11914-1</b>	6
Pkg of 25 Lugs Used Inside Panel on Front Mount Bulkhead Receptacles to Ground Cable Shield	—	.906(23.0)	.578(14.7)	—	P15	—	—	(IBM 2245373)	<b>31-759</b>	7
Pkg of 50 Lugs Used Inside Panel on Front Mount Bulkhead Receptacles for Ground Wire to Circuit	—	1.16(29.4)	.578(14.7)	—	P16	—	—	—	<b>31-10152-1</b>	8

▲ If ground for a cable shield is needed inside the panel, use lug 31-759 If a ground wire to circuit inside the panel is needed, use lug 31-10152

‡ Wang 350-1036; IBM 1620666 † recommended torque value on jam nut = 12 lbf-in. max. ☆ max. panel when rear mounted thru panel

# BNC printed circuit board receptacles

Fig. 1



**31-5431**  
Isolated from Panel  
White Valox Housing

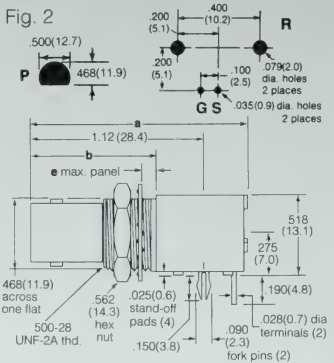
**31-5538**  
Isolated from Panel  
Black Valox Housing

**31-5640**  
Metal Housing



Standard BNC Printed Circuit Board Right Angle Bulkhead Receptacle

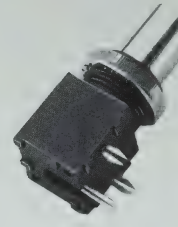
Fig. 2



**31-5486**  
Isolated from Panel  
White Valox Housing

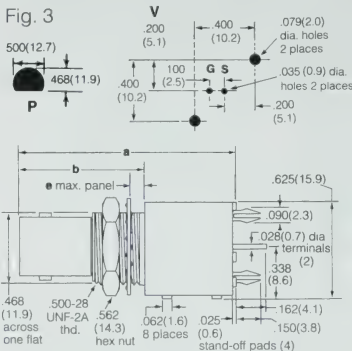
**31-5540**  
Isolated from Panel  
Black Valox Housing

**31-5637**  
Metal Housing



Low Profile BNC Printed Circuit Board Right Angle Bulkhead Receptacle

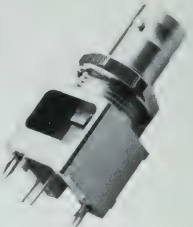
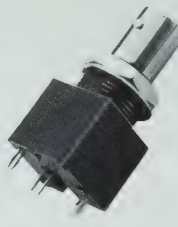
Fig. 3



**31-5493**  
Isolated from Panel  
White Valox Housing

**31-5539**  
Isolated from Panel  
Black Valox Housing

**31-5633**  
Metal Housing



Vertical BNC Printed Circuit Board Bulkhead Receptacle

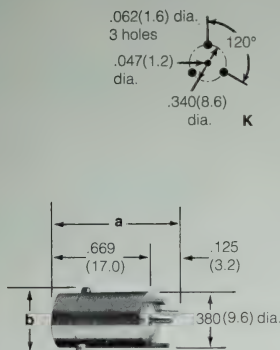
## BNC PRINTED CIRCUIT BOARD RECEPTACES

Description	Terminal Type	Dimensions, inches (millimeters)			Notes			MTG Hole	Notes	Amphenol Number	Fig.
		a	b	e	Plt.	Ins.	Imp				
Standard, Printed Circuit Angle Bulkhead Receptacle (J), Mount to Board w/Two Fork Pins	Blunt Posts for Signal & Ground	1.40(35.6)	.810(20.6)	.250(6.4)	P14	D17	50Ω	R/P	Iso. White Housing	31-5431	1
						D22			Iso. Black Housing	31-5538	
									Metal Housing	31-5640	
Low Profile, Printed Circuit Angle Bulkhead Receptacle (J), Mount to Board w/Two Fork Pins	Blunt Posts for Signal & Ground	1.40(35.6)	.810(20.6)	.250(6.4)	P14	D17	50Ω	R/P	Iso. White Housing	31-5486	2
						D22			Iso. Black Housing	31-5540	
									Metal Housing	31-5637	
Vertical, Printed Circuit Bulkhead Receptacle (J), Mount to Board w/Two Fork Pins	Blunt Posts for Signal & Ground	1.40(35.6)	.810(20.6)	.250(6.4)	P14	D17	50Ω	V/P	Iso. White Housing	31-5493	3
						D22			Iso. Black Housing	31-5539	
									Metal Housing	31-5633	



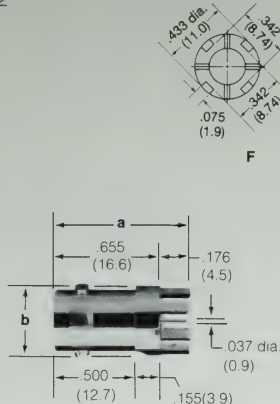
## 50Ω & 75Ω BNC printed circuit board receptacles - continued

Fig. 1



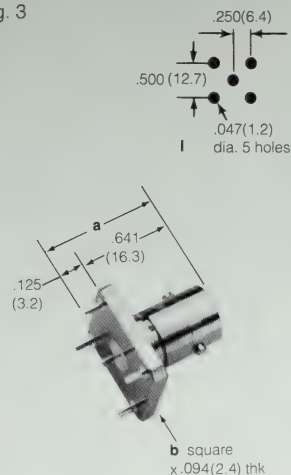
BNC PC Receptacles (Jack)  
Post Terminal, 3 Legs  
.380" (9.6mm) Dia. Base  
**31-5329** with Zinc Body  
**31-5158** with Brass Body

Fig. 2



BNC PC Receptacles (Jack)  
Post Terminal, 4 Legs  
.433" (11.0mm) Dia. Base  
50Ω **31-5329-51RFX** Silver Plt. Contact  
50Ω **31-5329-52RFX** Gold Plt. Contact  
75Ω **31-5329-71RFX** Silver Plt. Contact  
75Ω **31-5329-72RFX** Gold Plt. Contact

Fig. 3



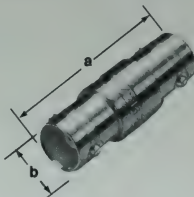
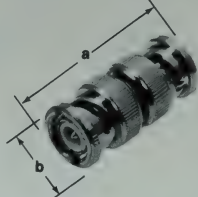
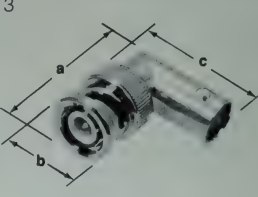
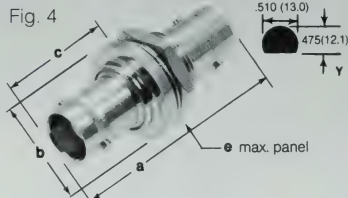
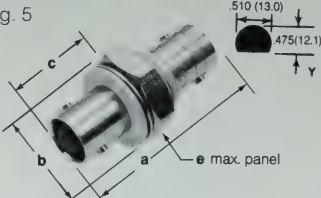
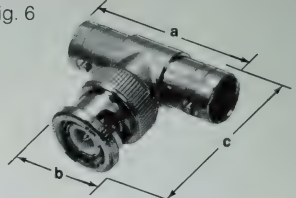
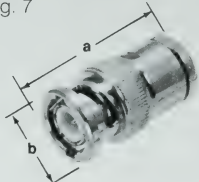

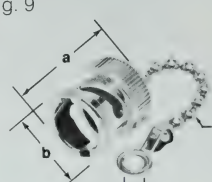
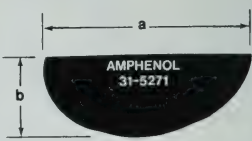
BNC PC Receptacle (Jack)  
Post Terminal, 4 Legs  
.687" (17.5mm) Sq. Base  
**18225**

### BNC PRINTED CIRCUIT BOARD RECEPTACLES

Description	Terminal Type	Dimensions, inches (mm)		Notes			MTG Hole	Military Number	Amphenol Number	Fig.
		a	b	Plt.	Ins.	Imp.				
PC Receptacle/Three Legs .125(3.2) Long/ Post Terminal .040(1.0) Dia. x .125(3.2) Long	Blunt Post	.794(20.2)	.434(11.0)	P13	D1	50Ω	K	(Zinc Body)	<b>31-5329</b>	1
				P2				(Brass Body)	<b>31-5158</b>	
PC Receptacle/Four Legs & Terminal are .040(1.0) Dia. x .125(3.2) Long	Blunt Post	.766(19.4)	.687(17.5)	P1	D1	50Ω	I	—	<b>18225</b>	3
PC Receptacle (Jack)/Four Legs .176(4.5)* Long/ Post Terminal .037(0.9)* Dia.	Blunt Post	.831(21.1)	.433(11.0)	P1‡	D3‡	50Ω	F	—	<b>31-5329-51RFX‡</b>	2
				P1‡	D3‡	50Ω	F	—	<b>31-5329-52RFX‡</b>	
				P1‡	D3‡	75Ω	F	—	<b>31-5329-71RFX‡</b>	
				P1‡	D3‡	75Ω	F	—	<b>31-5329-72RFX‡</b>	

‡ for RFX plating and insulation codes, see page 101.

## BNC adapters and accessories

<p>Fig. 1</p>  <p>BNC Straight Adapter Jack-Jack <b>31-219</b></p>	<p>Fig. 2</p>  <p>BNC Straight Adapter Plug-Plug <b>31-218</b></p>	<p>Fig. 3</p>  <p>BNC Angle Adapter Jack-Plug <b>31-9</b></p>	
<p>Fig. 4</p>  <p>BNC Bulkhead Adapter Jack-Jack <b>31-220H</b> Sealed .187" max. panel <b>31-220N</b> Non-sealed .187" max. panel <b>31-3220</b> Sealed .281" max. panel</p>	<p>Fig. 5</p>  <p>BNC Isolated Bulkhead Adapter Jack-Jack <b>31-4803</b> Silver Plt. Contact <b>31-4803-1101</b> Gold Plt. Contact</p>	<p>Fig. 6</p>  <p>BNC Tee Adapter Jack-Plug-Jack <b>31-208</b> Silver Plt. Contact <b>31-208-1051</b> Gold Plt. Contact</p>	
<p>Fig. 7</p>  <p>BNC Resistor Term. Male Cap <b>46650-51</b> 51Ω 5% 1w <b>46650-75</b> 75Ω 5% 1w <b>46650-91</b> 91Ω 5% 1w</p>	<p>Fig. 8</p>  <p>BNC Res. Term. Cap &amp; Chain <b>35650-51</b> 51Ω 5% 1/2w <b>35650-75</b> 75Ω 5% 1/2w <b>35650-91</b> 91Ω 5% 1/2w</p>	<p>Fig. 9</p>  <p>BNC Male Cap &amp; Chain <b>31-6</b> (CW-123)</p>	<p>Fig. 10</p>  <p>Velcro Boot for Thinner (Fits over BNC Tee Adapter) <b>31-5271</b></p>

### BNC ADAPTERS, CAPS & ACCESSORIES

Description		Dimensions, inches (millimeters)				Notes		MTG Hole	Military Number	Amphenol Number	Fig.
		a	b	c	e	Plt.	Ins.				
Straight	Jack-Jack	1.28(32.5)	.437(11.1)	—	—	P1	D1	—	UG-914	<b>31-219</b>	1
Straight	Plug-Plug	1.25(31.8)	.562(14.3)	—	—	P1	D1	—	UG-491A	<b>31-218</b>	2
Angle	Jack-Plug	1.06(27.0)	.562(14.3)	1.02(25.8)	—	P1	D1	—	UG-306	<b>31-9</b> ▲	3
Bulkhead, Pressurized	Jack-Jack	1.40(35.6)	—	.625(15.9)	.683(17.3)	P1	D1	—	UG-492A	<b>31-220H</b> ‡	4
Bulkhead, Non Sealed Version of 31-220H			.800(20.3)	.664(16.9)	.187(4.8)	P2	D2	Y	—	<b>31-220N</b>	4
Bulkhead, Pressurized			.625(15.4)	.683(17.3)	.281(7.1)	P7	D1	Y	UG-492D	<b>31-3220</b>	4
Bulkhead, Isolated from Panel, Thermoplastic Ins.	Jack-Jack	1.28(32.5)	.625(15.9)	.460(11.7)	.190(4.8)	P1 P53	D12	Y	—	<b>31-4803</b> <b>31-4803-1101</b>	5
Tee	Jack-Plug-Jack	1.28(32.5)	.562(14.3)	1.06(27.0)	—	P1 P53	D1	—	UG-274A	<b>31-208</b> <b>31-208-1051</b>	6
Male Cap, Resistor Terminated, 5% 1 watt	51Ω	1.12(28.6)	.562(14.3)	—	—	P1	D1	—	—	<b>46650-51</b>	7
	75Ω									<b>46650-75</b>	7
	91Ω									<b>46650-91</b>	7
Male Cap & Chain Resistor Terminated, 5% 1/2watt	51Ω	1.19(30.2)	.562(14.3)	.144(3.7)	3.50(88.9)	P1	D1	—	—	<b>35650-51</b>	8
	75Ω									<b>35650-75</b>	8
	91Ω									<b>35650-91</b>	8
Male Cap & Chain		.688(17.5)	.562(14.3)	.130(3.3)	2.25(57.2)	P3	—	—	CW-123	<b>31-6</b>	9
Velcro Boot for Thinner (Fits over Tee Adapter)		3.80(96.0)	1.90(48.0)	—	—	—	—	—	—	<b>31-5271</b>	10

# BNC assembly instructions - C9

## CRIMP TYPES



outer ferrule

bushing

male contact

plug body assembly

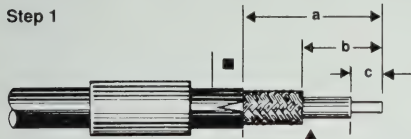
female contact

jack body assembly

◆ This part is used only with RG-62 cable

Amphenol Number	Connector Type	Cable RG/U	Hex Crimp Data				Stripping Dimensions, inches (mm)		
			Cavity for Contact	Cavity for Outer Ferrule	Die Set for Tool 227-944	CTL Series Tool Number	a	b	c
31-242	BNC Plug	179, 187	.068(1.7)	.178(4.5)	227-1221-09	CTL-2	.593(15.1)	.250(6.4)	.156(4.0)
31-245	BNC Bulkhead Jack								
31-315	BNC Plug	174, 188, 316							
31-315-1005	BNC Plug	Dbl. Br. 316							
31-318	BNC Bulkhead Jack	174, 188, 316	.068(1.7)	.213(5.4)	227-1221-11	CTL-1	.593(15.1)	.250(6.4)	.156(4.0)
31-320	BNC Plug	58, 141							
31-320-1006	BNC Plug	B9907, B89907							
31-321	BNC Plug	59, 62							
31-321-1000	BNC Plug	B8281	.068(1.7)	.324(8.2)	227-1221-32	CTL-2	.593(15.1)	.250(6.4)	.156(4.0)
31-325	BNC Plug	122, B8218	.068(1.7)	.178(4.5)	227-1221-09				
31-335	BNC Angle Plug	58, 141	.068(1.7)	.213(5.4)	227-1221-11	CTL-1	.578(14.7)	.328(8.3)	.125(3.2)
31-336	BNC Angle Plug	59, 62	.068(1.7)	.255(6.5)	227-1221-13				
31-342	BNC Bulkhead Jack	58, 141	.068(1.7)	.213(5.4)	227-1221-11				
31-343	BNC Bulkhead Jack	59, 62	.068(1.7)	.255(6.5)	227-1221-13				
31-343-1002	BNC Bulkhead Jack	PL-59 20AWG CC	.068(1.7)	.255(6.5)	227-1221-13	CTL-1	.593(15.1)	.250(6.4)	.156(4.0)
31-4320	BNC Plug	58, 141	.068(1.7)	.213(5.4)	227-1221-11				
31-4321	BNC Plug	59, 62	.068(1.7)	.255(6.5)	227-1221-13				
31-4411	BNC Plug	B8213	.100(2.5)	.429(10.9)	227-1221-25	CTL-3	.656(16.7)	.250(6.4)	.156(4.0)
36650-1003	BNC Plug	Plenum 58	.068(1.7)	.178(4.5)	227-1221-09	CTL-1	.593(15.1)	.250(6.4)	.156(4.0)
36775	BNC Plug	58, 141	.068(1.7)	.213(5.4)	227-1221-11				
36800	BNC Jack								
68150	BNC Jack	59, 62							
68150-1002	BNC Jack	59 (20 AWG CC)							
68175	BNC Plug	59							
68175-1003	BNC Plug	B9259							
68175-1004	BNC Plug	62							
68175-1005	BNC Plug	59 (20 AWG CC)							
68175-1011	BNC Plug	Plenum 59, 62							
95600	BNC Angle Plug	58, 141	.068(1.7)	.213(5.4)	227-1221-11	CTL-1	.609(15.5)	.359(9.1)	.172(4.4)
95625	BNC Angle Plug	59, 62	.068(1.7)	.255(6.5)	227-1221-13				

### Step 1



■ ▲ For RG-174, 179, 187, 188, 316/U cables only, slit jacket back .100"(2.5mm) as shown. Before attaching center contact, slide metal spacer/TFE sleeve (not shown) over cable dielectric and under braid. The center contact should butt against the dielectric and TFE sleeve

**Step 1** Strip cable jacket, braid, and dielectric to dimensions in table above. [for RG-62, 71, 210/U cable, trim an additional .039"(1.0mm) of insulation off center conductor and add bushing] All cuts are to be sharp and square. Important: Do not nick braid, dielectric, and center conductor. Slide outer ferrule onto cable as shown.

### Step 2

contact must butt against cable dielectric



**Step 2** Flare slightly end of cable braid as shown to facilitate insertion of inner ferrule. Important: Do not comb out braid. ▲ Place contact on cable center conductor so that it butts against cable dielectric. Crimp contact in place using Die Set Cavity indicated in table above.

### Step 3

cable dielectric must butt insulator  
outer ferrule should butt here



**Step 3** Install cable assembly into body assembly so that inner ferrule portion slides under braid. Push cable assembly forward until contact snaps into place in insulator. Slide outer ferrule over braid and up against connector body. Crimp outer ferrule using Die Set Cavity specified in table above.



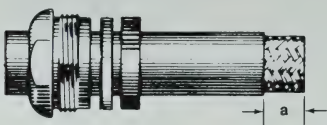
## BNC assembly instructions - C10

### CLAMP TYPES

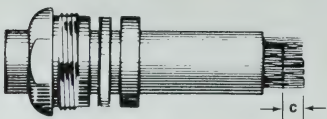


♦ This part is used only with RG-62 cable

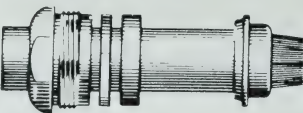
Step 1



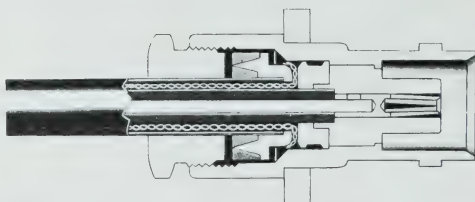
Step 2



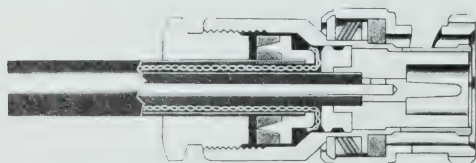
Step 3



Step 4



Step 5



Amphenol Number	Connector Type	Cable RG-/U	Stripping Dims, Inches (Millimeters)	
			a	c
31-2	BNC Plug	58	.312(7.9)	.094(2.4)
31-202			.250(6.4)	.094(2.4)
31-204	BNC Angle Plug	55, 58, 141, 142, 223, 400	.281(7.1)	.109(2.8)
31-205	BNC Jack	55, 58, 141, 142, 223, 400	.297(7.5)	.109(2.8)
31-206	BNC Bulkhead Jack			
31-207	BNC Bulkhead Jack	59, 62, 140, 210	.250(6.4)	.094(2.4)
31-212	BNC Plug	59, 62		
31-215	BNC Jack	59, 62, 140, 210	.297(7.5)	.109(2.8)
31-71003	75Ω BNC Plug	59, 62, 140, 210	.250(6.4)	.156(4.0)
6775-75	75Ω BNC Plug	11	.490(12.4)	.200(5.1)
8575	BNC Angle Plug	59, 62, 140, 210	.297(7.5)	.094(2.4)
84975	BNC Plug	122, B8218	.281(7.1)	.172(4.4)
86225	BNC Angle Plug	59, 62, 140, 210	.281(7.1)	.141(3.6)

**Step 1** Place nut, washer and gasket over cable and strip jacket to dimension **a** shown in table above.

**Step 2** Comb out braid and fold out. Trim insulation off center conductor to dimension **c** shown in table above.  
[For RG-62.71 and 210/U cable, trim an additional .032" (0.8mm) of insulation off center conductor and add bushing.] Tin center conductor.

**Step 3** Pull braid wires forward and taper toward center conductor. Place clamp over braid and push back against cable jacket.

**Step 4** Fold back braid wires as shown, trim to proper length [.125" (3.2mm) long]▲ and form over clamp as shown. Solder contact to center conductor.

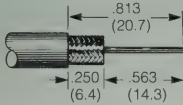
**Step 5** Insert cable and parts into connector body. Make sure sharp edge of clamp seats properly in gasket. Tighten nut.

▲ for 6775-75, trim braid to be .290(7.4) long; for 31-71003, trim braid to be .219(5.5) long.

## BNC SURETWIST® assembly instructions - C11

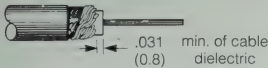
The following instructions are identical for all configurations of BNC SURETWIST® connectors

### Step 1



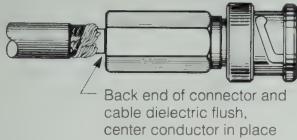
Strip cable as shown. Take care not to nick center conductor or outer braid.

### Step 2



Twist outer braid in a clockwise direction so that at least 1/32" of cable dielectric is bared, and braid is left flat. (Stray or loose braid can cause shorts.)

### Step 3



Gently insert center conductor into back end of connector, "feeling" it into the guide hole. (If center conductor is NOT properly in place, about 1/8" of center conductor will show at the back end. Reinsert until cable dielectric reaches position shown in illustration.)

Cable ☆ RG-/U	Connector Type	Amphenol Number
58	BNC Plug	<b>31-5137</b>
	BNC Angle Plug	<b>31-5153</b>
	BNC Jack	<b>31-5139</b>
59	BNC Plug	<b>31-5136</b>
	BNC Angle Plug	<b>31-5154</b>
	BNC Jack	<b>31-5138</b>
Belden 8281, 88281 Times AA-5236 Amphenol 21-1060-7	BNC Plug	<b>31-5151</b>
	BNC Angle Plug	<b>31-5155</b>
	BNC Jack	<b>31-5152</b>
Plenum 59, 62 Belden 89269, 86262 Times AA-6074, AA-6075	BNC Plug	<b>31-5369</b>
	BNC Jack	<b>31-5370</b>

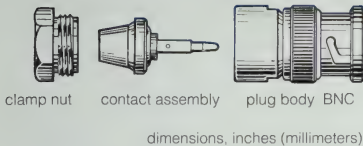
☆ for solid center conductor cables only.

### Step 4

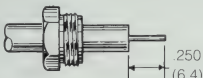


Push the cable firmly home (as far as possible). Then screw the connector onto the cable in a clockwise direction until it stops. Assembly is complete.

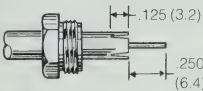
## BNC QUICKTRIM® assembly instructions - C12



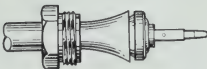
### Step 1A



### Step 1B



### Step 2



### Step 3



### Step 4



Amphenol Number	Cable RG-/U	Center Contact Affixment		
		Hex Size	Die Set for Tool 227-944	CTL Series Tool Number
31-4541	59, 59A, 62, 62A	.068(1.7)	227-1221-13 Cavity B	CTL-1
31-4542	Belden 9268 Montrose CBL-5098			
31-5060	Plenum 62 IBM 4885584	Solder Center Conductor		

**Step 1A** For all cables listed, except Plenum 62. Slide clamp nut over cable. Strip cable to dimension shown. Cut braid and dielectric square. Do not nick center conductor.

**Step 1B** For Plenum 62 (IBM 4885584). Same as step 1A, and then slit jacket back .125" (3.2 mm) in four places 90° apart as shown in illustration.

**Step 2** Slide contact assembly under braid and jacket until braid butts as shown. Use caution that braid slides over contact assembly and not inside of it. Be sure center conductor is visible through side hole of contact. Crimp contact to conductor using Amphenol CTL-1 crimp tool; or by using die set 227-1221-13 cavity B in tool frame 227-944 or in pneumatic crimp tool 227-60., or solder contact to conductor.

**Step 3** Insert into connector body.

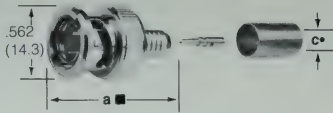
**Step 4** Tighten clamp nut to a torque of 35 lbf-in

## 75Ω BNC & TNC connectors\*

Amphenol® **75Ω BNCs** are available in two types based on performance requirements. Both types mate with each other and with 50Ω BNCs. Type 1 is designated **75Ω BNC-T1** and provides constant 75Ω performance with

low VSWR to 4.0 GHz. Type 2 is designated **75Ω BNC-T2** and is usable with low reflection to 1.0 GHz. The **75Ω TNCs** (which mate with 50Ω TNCs) operate with VSWR 1.3 max. 0-6 GHz. See specifications, page 20.

Fig. 1  
75Ω BNC  
Crimp Type  
Plugs



Cables                      Type                      Connectors

RG-6 Type .295(7.5) O.D. max.	T1	<b>31-70000</b>
Belden 9248, Plenum RG-6	T2	<b>31-71000</b>
Plenum RG-11	T2	<b>31-71034</b>
RG-59	T1	<b>31-70008</b>
RG-59, 62	T2	<b>31-71008</b>
RG-59 (20GA CC)	T1	<b>31-70008-1000</b>
RG-59, 62 (20GA CC), B1151A	T2	<b>31-71008-1000</b>
Plenum RG-59	T2	<b>31-71008-2000</b>
PL-59 (20GA CC)	T2	<b>31-71035</b>
.180" O.D. Plenum RG-59	T2	<b>31-71021</b>
RG-179, 187	T1	<b>31-70013</b>
	T2	<b>31-71013</b>
Dbl. Br. RG-179	T2	<b>31-71013-1000</b>
ATT19224-L2	T1	<b>31-70013-1000</b>
ATT 728B, Belden 9231	T1	<b>31-70022</b>
Belden 8218	T2	<b>31-71033</b>
Belden 8281, 88281	T2	<b>31-71032</b>

Fig. 2

75Ω TNC  
Crimp Type  
Plugs

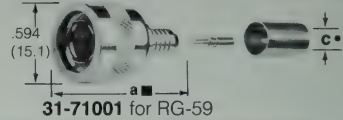


Fig. 3

75Ω BNC  
Clamp Type  
Plugs

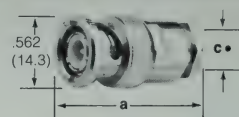
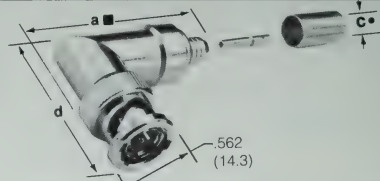


Fig. 4

75Ω BNC  
Crimp Type  
Angle Plugs



RG-59	T1	<b>31-70010</b>
	T2	<b>31-71010</b>
RG-179	T1	<b>31-70015</b>
Dbl. Br. RG-179, ATT 19224-L2	T1	<b>31-70015-1000</b>
ATT 728B, Belden 9231	T1	<b>31-70027</b>
ATT 734A	T1	<b>31-70048</b>
ATT 735A	T1	<b>31-70082</b>

### 75Ω BNC & TNC PLUGS AND ANGLE PLUGS

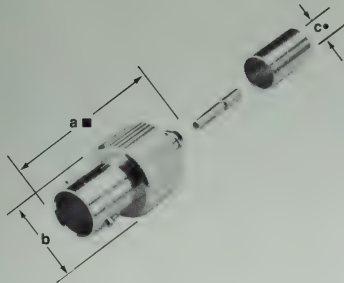
Cable RG-/U	Connector Configuration	Cable Attachment		Dimensions, inches (millimeters)			Notes			75Ω Type	Amphenol Number	Fig.
		Outer	Inner	a	c•	d	CAI	Pit.	Ins.			
RG-6 Type .295" O.D. max Belden 9248, PL-6	BNC Plug	Crimp	Crimp	1.35(34.3) ■	.300(7.6)	—	C29	P53	D1	T1	31-70000	1
11	BNC Plug	Clamp	Solder	1.21(30.7) ■	.300(7.6)	—	C29	P53	D1	T2	31-71000	1
Plenum 11	BNC Plug	Crimp	Crimp	1.62(41.2) ■	.418(10.6)	—	C29	P54	D1	T2	31-71034	1
59	BNC Plug	Crimp	Crimp	1.25(31.7) ■	.261(6.6)	—	C29	P54	D1	T1	31-70008	1
	Angle BNC Plug	Crimp	Crimp	1.64(41.6) ■	.261(6.6)	1.24(31.5)	C29	P54	D1	T1	31-70010	4
59, 62	TNC Plug	Crimp	Crimp	1.66(42.2) ■	.261(6.6)	1.24(31.5)	C29	P53	D1	T2	31-71010	4
		Crimp	Crimp	1.12(28.6) ■	.261(6.6)	—	C29	P53	D1	T2	31-71001	2
	BNC Plug	Clamp	Solder	1.06(27.0) ■	.265(6.5)	—	C10	P53	D1	T2	31-71003	3
59 (20 GACC)	BNC Plug	Crimp	Crimp	1.25(31.7) ■	.261(6.6)	—	C29	P54	D1	T1	31-70008-1000	1
59, 62 (20 GACC)†	BNC Plug	Crimp	Crimp	1.12(28.5) ■	.261(6.6)	—	C29	P53	D1	T2	31-71008-1000	1
Plenum 59	BNC Plug	Crimp	Crimp	1.11(28.2) ■	.220(5.6)	—	C29	P53	D1	T2	31-71008-2000	1
PL-59 (20 GACC)	BNC Plug	Crimp	Crimp	1.11(28.2) ■	.220(5.6)	—	C29	P53	D1	T2	31-71035	1
.180" O.D. Plenum 59	BNC Plug	Crimp	Crimp	1.12(28.5) ■	.206(5.2)	—	C29	P53	D1	T2	31-71021	1
179, 187	BNC Plug	Crimp	Crimp	1.33(33.5) ■	.120(3.0)	—	C29	P54	D1	T1	31-70013	1
				1.19(30.2) ■	.120(3.0)	—	C29	P53	D1	T2	31-71013	1
Dbl. Br. 179	BNC Plug	Crimp	Crimp	1.71(43.4) ■	.120(3.0)	1.24(31.5)	C29	P54	D1	T1	31-70015	4
Dbl. Br. 179,	BNC Plug	Crimp	Crimp	1.11(28.2) ■	.175(4.4)	—	C29	P53	D1	T2	31-71013-1000	1
ATT 19224-L2	BNC Angle Plug	Crimp	Crimp	1.25(31.7) ■	.175(4.4)	—	C29	P54	D1	T1	31-70013-1000	1
ATT 728B,	BNC Plug	Crimp	Crimp	1.63(41.4) ■	.175(4.4)	1.24(31.5)	C29	P54	D1	T1	31-70015-1000	4
Belden 9231	BNC Angle Plug	Crimp	Crimp	1.36(34.5) ■	.342(8.7)	—	C29	P54	D1	T1	31-70022	1
ATT 734A	BNC Angle Plug	Crimp	Crimp	1.75(44.4) ■	.342(8.7)	1.20(30.5)	C29	P53	D1	T1	31-70027	4
ATT 735A	BNC Angle Plug	Crimp	Solder	1.64(41.6) ■	.261(6.6)	1.24(31.5)	C29	P54	D1	T1	31-70048	4
Belden 8218	BNC Plug	Crimp	Crimp	1.09(27.7) ■	.158(4.0)	.894(22.7)	C29	P53	D1	T1	31-70082	4
Belden 8281, 88281	BNC Plug	Crimp	Crimp	1.11(28.2) ■	.175(4.4)	1.24(31.5)	C29	P53	D1	T2	31-71033	1
				1.21(30.7) ■	.342(8.7)	—	C29	P53	D1	T2	31-71032	1

■ accommodates cable diameter    ■ to end of crimp ferrule    ‡ and Belden 1151A    \* for additional 75Ω connectors, see RFX index, page 100.



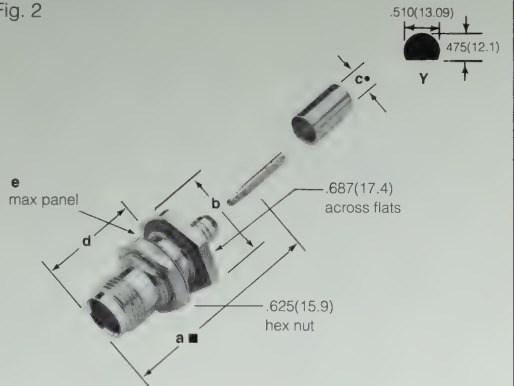
# 75Ω BNC & TNC straight, bulkhead & panel jacks

Fig. 1



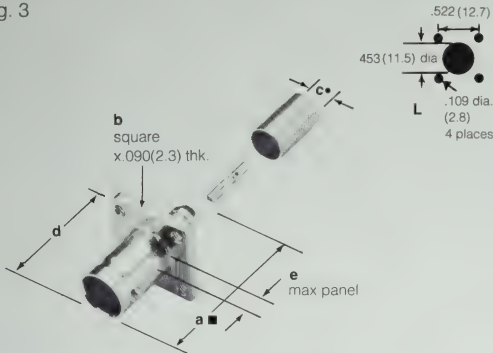
75Ω BNC Crimp Type Jack

Fig. 2



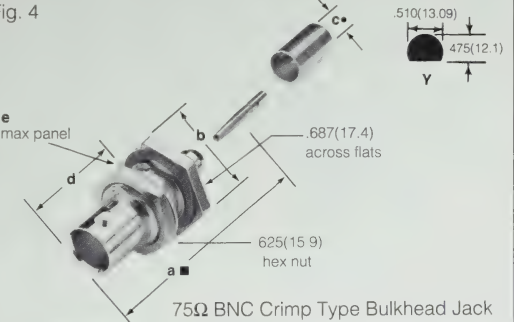
75Ω TNC Crimp Type Bulkhead Jack

Fig. 3



75Ω BNC Crimp Type Panel Jack

Fig. 4



75Ω BNC Crimp Type Bulkhead Jack

RG-59	T1	<b>31-70009</b>
	T2	<b>31-71009</b>
RG-179, 187	T1	<b>31-70014</b>
	T2	<b>31-71014</b>

RG-59, 62	T2	<b>31-71002</b>
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RG-59	T1	<b>31-70012</b>
RG-179, 187	T1	<b>31-70017</b>

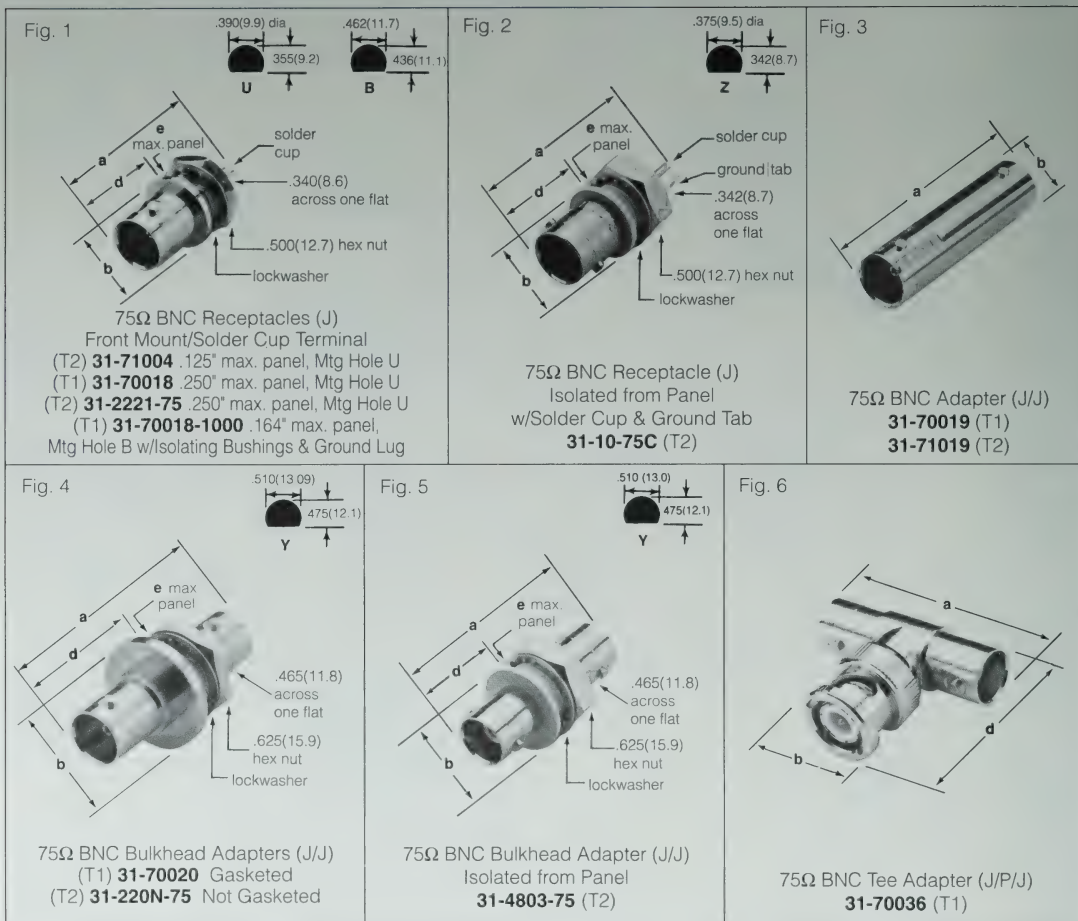
RG-59	T1	<b>31-70011</b>
	T2	<b>31-71011</b>
RG-179, 187	T1	<b>31-70016</b>
	T2	<b>31-71016</b>
Dbl. Br. RG-179, ATT19 224-L2	T1	<b>31-70016-1000</b>

## 75Ω BNC & TNC STRAIGHT, BULKHEAD & PANEL JACKS

Cable RG/U	Connector Type	Dimensions, inches (millimeters)					Notes			Mtg Hole	Military Number	75Ω Type	Amphenol Number	Fig.
		a ■	b	c ●	d	e	CAI	Plt.	Ins.					
59	BNC Jack	1.18(30.0)	.510(12.9)	.261(6.6)	—	—	C29	P54	D1	—	—	T1	31-70009	1
	BNC Jack	1.38(35.0)	.570(14.5)	.261(6.6)	—	—	C29	P53	D1	—	—	T2	31-71009	
	BNC Panel Jack	1.18(30.0)	.687(17.4)sq.	.261(6.6)	.555(14.1)	.187(4.7)▲	C29	P54	D1	L	—	T1	31-70012	3
	BNC Bulkhead Jack	1.42(36.0)	.687(17.4)hex	.261(6.6)	.812(20.6)	.250(6.4)	C29	P54	D1	Y	—	T1	31-70011	4
59, 62, 140, 210	BNC Bulkhead Jack	1.41(35.7)	.795(20.2)dia	.261(6.6)	.812(20.6)	.250(6.4)	C29	P53	D1	Y	—	T2	31-71011	
	TNC Bulkhead Jack	1.41(35.7)	.795(20.2)dia	.261(6.6)	.812(20.6)	.250(6.4)	C29	P53	D1	Y	—	T2	31-71002	2
179, 187	BNC Jack	1.25(31.7)	.510(12.9)	.120(3.0)	—	—	C29	P54	D1	—	—	T1	31-70014	1
	BNC Jack	1.25(31.7)	.510(12.9)	.120(3.0)	—	—	C29	P53	D1	—	—	T2	31-71014	
	BNC Panel Jack	1.25(31.7)	.687(17.4)sq.	.120(3.0)	.555(14.1)	.187(4.7)▲	C29	P54	D1	L	—	T1	31-70017	3
	BNC Panel Jack	1.48(37.7)	.687(17.4)hex	.120(3.0)	.812(20.6)	.250(6.4)	C29	P54	D1	Y	—	T1	31-70016	4
Dbl. Br. 179 ATT 19224-L2	BNC Bulkhead Jack	1.41(35.7)	.795(20.2)dia	.120(3.0)	.812(20.6)	.250(6.4)	C29	P53	D1	Y	—	T2	31-71016	
	BNC Bulkhead Jack	1.48(37.7)	.687(17.4)hex	.175(4.4)	.812(20.6)	.250(6.4)	C29	P53	D1	Y	—	T1	31-70016-1000	4

▲ connectors shown are crimp-crimp type cable attachment ■ to end of crimp ferrule ● I.D. of crimp ferrule ▲ max. panel when rear mounted thru panel

## 75Ω BNC receptacles & adapters\*



### 75Ω BNC RECEPTACLES & ADAPTERS

Description	Term. Type	Dimensions, inches (millimeters)				Notes		MTG Hole	Mil No.	75Ω Type	Amphenol Number	Fig.
		a	b	d	e	Plt.	Ins.					
Bulkhead Receptacle (J) Front Mount	Solder Cup	1.06(27.0)	.490(12.4)	.472(12.0)	.125(3.2)	P53	D1	U	—	T2	<b>31-71004</b>	1
		1.19(30.2)	.490(12.4)	.472(12.0)	.250(6.4)	P54	D1	U	—	T1	<b>31-70018</b>	
		1.19(30.2)	.490(12.4)	.472(12.0)	.164(4.2)	P54	D1	B	—	T1	<b>31-70018-1000</b>	
Bulkhead Receptacle (J) Frnt Mt w/ Iso. Bushings & Ground Lug	Solder Cup Ground Lug	1.19(30.2)	.490(12.4)	.472(12.0)	.187(4.7)	P53	D12	Z	—	T2	<b>31-10-75C</b>	2
Straight Adapter (J/J)		1.40(35.6)	.434(11.0)	—	—	P54	D1	—	—	T1	<b>31-70019</b>	3
		1.28(32.5)	.437(11.1)	—	—	P53	D1	—	—	T2	<b>31-71019</b>	
Bulkh Adapter (J/J)	Gasketed	1.40(35.6)	.750(19.0)	.666(16.9)	.172(4.4)	P53	D1	Y	—	T1	<b>31-70020</b>	4
	Not Gasketed	1.40(35.6)	.750(19.0)	.666(16.9)	.172(4.4)	P54	D1	Y	—	T2	<b>31-220N-75</b>	
Bulkh Adapter (J/J) Iso. from Panel, White Noryl Ins		1.28(32.5)	.625(15.9)	.460(11.7)	.190(4.8)	P54	D12	Y	—	T2	<b>31-4803-75</b>	5
Tee Adapter (J/P/J)		1.28(32.5)	.562(14.3)	1.04(26.3)	—	P53	D1	—	—	T1	<b>31-70036</b>	6

\* For 75Ω BNC printed circuit board receptacle, see 31-5329-71RFX &amp; -72RFX, page 104

# 75Ω BNC & TNC assembly instructions - C29

## CRIMP TYPES



outer ferrule



bushing



male contact

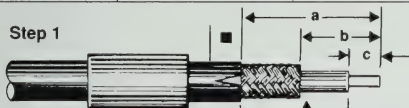


body assembly

◆ This part is used only with RG-62 cable

Amphenol Number	Connector Type	Cable RG/U	Hex Crimp Data				Stripping Dimensions, inches (mm)		
			Cavity for Contact	Cavity for Outer Ferrule	Die Set for Tool 227-944	CTL Series Tool No.	a	b	c
31-70000	75Ω BNC-T1 Plug	RG-6, B9248, PL-6	.052(1.3)sq.	.324(8.2)	227-980-3	—	.576(14.6)	.233(5.9)	.140(3.5)
31-70008	75Ω BNC-T1 Plug	RG-59	.049(1.2)sq.	.255(6.5)	227-980-1	—	.576(14.6)	.233(5.9)	.140(3.5)
31-70008-1000	75Ω BNC-T1 Plug	RG-59 (20GACC)	.049(1.2)sq.	.255(6.5)	227-980-1	—	.576(14.6)	.233(5.9)	.140(3.5)
31-70009	75Ω BNC-T1 Jack	RG-59	.049(1.2)sq.	.255(6.5)	227-980-1	—	.557(14.1)	.214(5.4)	.140(3.5)
31-70010	75Ω BNC-T1 Angle Plug	RG-59	.049(1.2)sq.	.255(6.5)	227-980-1	—	.557(14.1)	.214(5.4)	.140(3.5)
31-70011	75Ω BNC-T1 Bulkhead Jack	RG-59	.049(1.2)sq.	.255(6.5)	227-980-1	—	.794(20.2)	.451(11.4)	.140(3.5)
31-70012	75Ω BNC-T1 Panel Jack	RG-59	.049(1.2)sq.	.255(6.5)	227-980-1	—	.557(14.1)	.214(5.4)	.140(3.5)
31-70013	75Ω BNC-T1 Plug	RG-179, 187	.052(1.3)sq.	.178(4.5)	227-980-7	—	.664(16.9)	.229(5.8)	.140(3.5)
31-70013-1000	75Ω BNC-T1 Plug	Dbl. Br. 179, ATT19224-L2	.052(1.3)sq.	.178(4.5)	227-980-7	—	.664(16.9)	.229(5.8)	.140(3.5)
31-70014	75Ω BNC-T1 Jack	RG-179, 187	.049(1.2)sq.	.178(4.5)	227-980-2	—	.649(16.5)	.214(5.3)	.140(3.5)
31-70015	75Ω BNC-T1 Angle Plug	RG-179, 187	.049(1.2)sq.	.178(4.5)	227-980-2	—	.649(16.5)	.214(5.4)	.140(3.5)
31-70015-1000	75Ω BNC-T1 Angle Plug	Dbl. Br. 179, ATT19224-L2	.049(1.2)sq.	.178(4.5)	227-980-2	—	.649(16.5)	.214(5.4)	.140(3.5)
31-70016	75Ω BNC-T1 Bulkhead Jack	RG-179, 187	.049(1.2)sq.	.178(4.5)	227-980-2	—	.886(22.5)	.451(11.4)	.140(3.5)
31-70016-1000	75Ω BNC-T1 Bulkhead Jack	Dbl. Br. 179, ATT19224-L2	.049(1.2)sq.	.178(4.5)	227-980-2	—	.886(22.5)	.451(11.4)	.140(3.5)
31-70017	75Ω BNC-T1 Panel Jack	RG-179, 187	.049(1.2)sq.	.178(4.5)	227-980-2	—	.649(16.5)	.214(5.3)	.140(3.5)
31-70022	75Ω BNC-T1 Plug	ATT 728B, Belden 9231	.068(1.7)	.324(8.2)	227-1221-32	CTL-2	.579(14.7)	.125(3.2)	.125(3.2)
31-70027	75Ω BNC-T1 Angle Plug	ATT 728B, Belden 9231	.052(1.3)sq.	.324(8.2)	227-980-3	—	.557(14.1)	.214(5.4)	.140(3.5)
31-70048	75Ω BNC-T1 Angle Plug	ATT 734A	.049(1.2)sq.	.255(6.5)	227-980-1	—	.557(14.1)	.214(5.4)	.140(3.5)
31-70082	75Ω BNC-T1 Angle Plug	ATT 735A	Solder	.160(4.1)	227-1448	—	.635(16.1)	.385(9.8)	.200(5.1)
31-71000	75Ω BNC-T2 Plug	RG-6, B9248, PL-6	.068(1.7)	.324(8.2)	227-1221-32	CTL-2	.593(15.1)	.250(6.4)	.156(4.0)
31-71001	75Ω TNC-T2 Plug	RG-59, 62, 140, 210	.068(1.7)	.255(6.5)	227-1221-13	CTL-1	.593(15.1)	.250(6.4)	.156(4.0)
31-71002	75Ω TNC-T2 Bulkhead Jack	RG-59, 62, 140, 210	.068(1.7)	.255(6.5)	227-1221-13	CTL-1	.593(15.1)	.250(6.4)	.156(4.0)
31-71008	75Ω BNC-T2 Plug	RG-59, 62, 140, 210	.068(1.7)	.255(6.5)	227-1221-13	CTL-1	.593(15.1)	.250(6.4)	.156(4.0)
31-71008-1000	75Ω BNC-T2 Plug	RG-59, 62(20GACC)	.068(1.7)	.255(6.5)	227-1221-13	CTL-1	.593(15.1)	.250(6.4)	.156(4.0)
31-71008-2000	75Ω BNC-T2 Plug	PL-59, B89269	.068(1.7)	.255(6.5)	227-1221-13	CTL-1	.593(15.1)	.250(6.4)	.156(4.0)
31-71009	75Ω BNC-T2 Jack	RG-59	.068(1.7)	.255(6.5)	227-1221-13	CTL-1	.578(14.7)	.328(8.3)	.125(3.2)
31-71010	75Ω BNC-T2 Angle Plug	RG-59	.068(1.7)	.255(6.5)	227-1221-13	CTL-1	.578(14.7)	.328(8.3)	.125(3.2)
31-71011	75Ω BNC-T2 Bulkhead Jack	RG-59	.068(1.7)	.255(6.5)	227-1221-13	CTL-1	.593(15.1)	.250(6.4)	.156(4.0)
31-71013	75Ω BNC-T2 Plug	RG-179, 187	.068(1.7)	.178(4.5)	227-1221-09	CTL-2	.593(15.1)	.250(6.4)	.156(4.0)
31-71013-1000	75Ω BNC-T2 Plug	Dbl. Br. RG-179	.068(1.7)	.178(4.5)	227-1221-09	CTL-2	.593(15.1)	.250(6.4)	.156(4.0)
31-71014	75Ω BNC-T2 Jack	RG-179, 187	.068(1.7)	.178(4.5)	227-1221-09	CTL-2	.593(15.1)	.250(6.4)	.156(4.0)
31-71016	75Ω BNC-T2 Bulkhead Jack	RG-179, 187	.068(1.7)	.178(4.5)	227-1221-09	CTL-2	.593(15.1)	.250(6.4)	.156(4.0)
31-71021	75Ω BNC-T2 Plug	.180" O.D. PL-59	.068(1.7)	.213(5.4)	227-1221-11	CTL-1	.593(15.1)	.250(6.4)	.156(4.0)
31-71032	75Ω BNC-T2 Plug	B8281, 88281	.068(1.7)	.324(8.2)	227-1221-32	CTL-2	.593(15.1)	.250(6.4)	.156(4.0)
31-71033	75Ω BNC-T2 Plug	B8218	.068(1.7)	.178(4.5)	227-1221-09	CTL-2	.593(15.1)	.250(6.4)	.156(4.0)
31-71034	75Ω BNC-T2 Plug	PL-11, B89292	.100(2.5)	.429(10.9)	227-1221-25	CTL-3	.656(16.7)	.250(6.4)	.156(4.0)
31-71035	75Ω BNC-T2 Plug	PL-59 (20GA CC)	.068(1.7)	.255(6.5)	227-1221-13	CTL-1	.593(5.1)	.250(6.4)	.156(4.0)

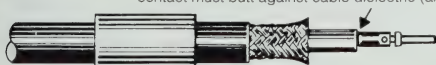
### Step 1



■ ▲ For RG-174, 179, 187, 188, 316/U cables only, slit jacket back .100"(2.5mm) as shown. Before attaching center contact, slide metal spacer/TFE sleeve (not shown) over cable dielectric and under braid.

### Step 2

contact must butt against cable dielectric (and TFE sleeve)



### Step 3

cable dielectric must butt insulator  
outer ferrule should butt here



### Step 1

Strip cable jacket, braid, and dielectric to dimensions in table above. [for RG-62, 71, 210/U cable, trim an additional .039"(1.0mm) of insulation off center conductor and add bushing]. All cuts are to be sharp and square. Important: Do not nick braid, dielectric, and center conductor. Slide outer ferrule onto cable as shown.

### Step 2

Flare slightly end of cable braid as shown to facilitate insertion of inner ferrule. Important: Do not comb out braid. ▲ Place contact on cable center conductor so that it butts against cable dielectric. Crimp contact in place using Die Set Cavity indicated in table above. ☆

### Step 3

Install cable assembly into body assembly so that inner ferrule portion slides under braid. Push cable assembly forward until contact snaps into place in insulator. Slide outer ferrule over braid and up against connector body. Crimp outer ferrule using Die Set Cavity specified above.

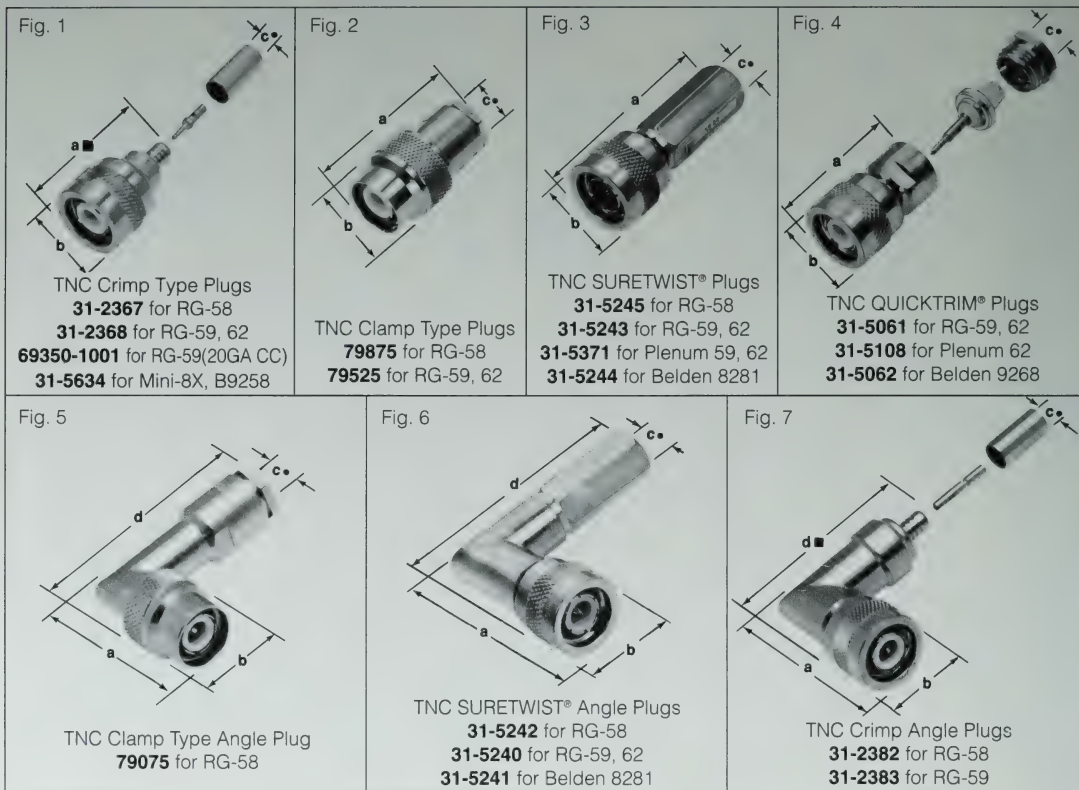
☆ for 31-70082, solder center conductor of cable into slot of preassembled center contact; insert cap into body and lightly punch cap for retention.



## TNC coaxial connectors\*

Amphenol® TNC connectors are miniature weather-proof units designed for applications where extreme vibration is

encountered. Frequency range is DC-11GHz with voltage rating of 500 V peak. See specifications, page 20.

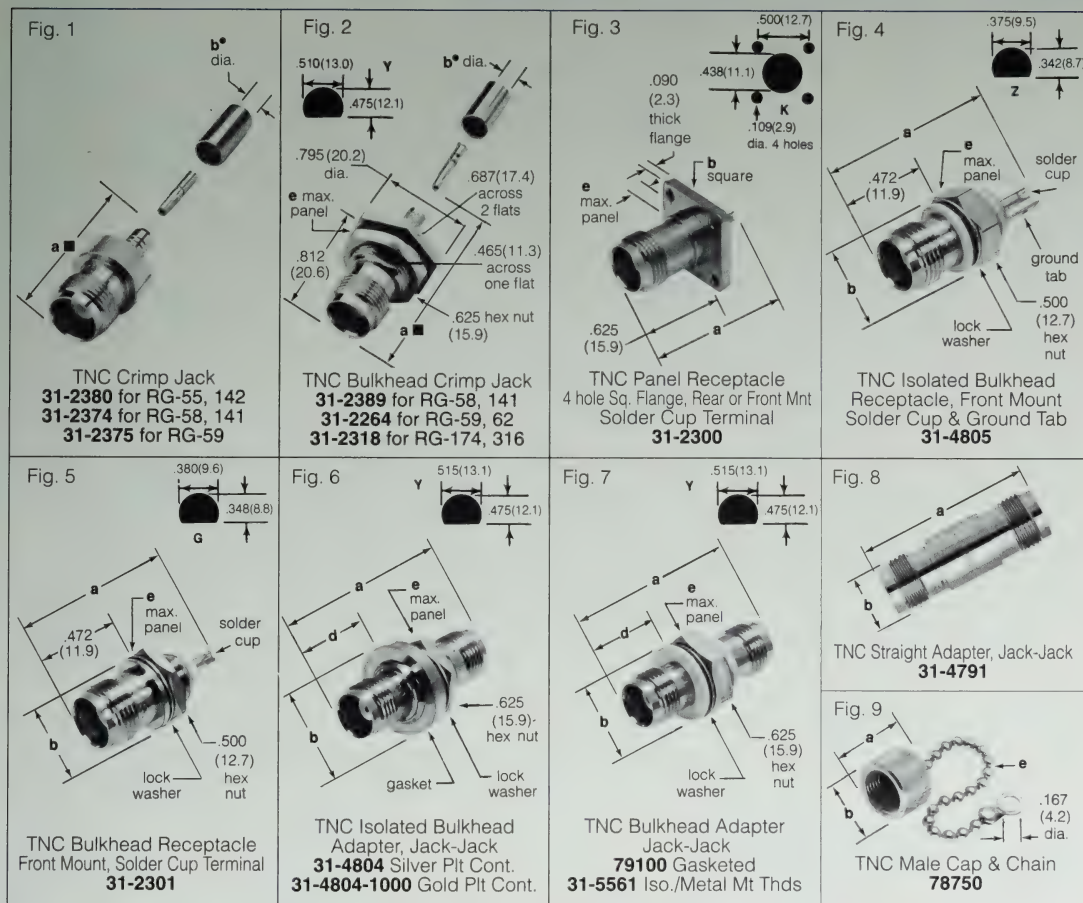


### TNC STRAIGHT PLUGS & ANGLE PLUGS • male contacts

Cable RG-U	Conn. Type	Cable Attachment		Dimensions, inches (millimeters)				Notes			Military Number	Amphenol Number	Fig.
		Outer	Inner	a	b	c*	d	CAI	Plt.	Ins.			
55, 58, 141,	Plug	Crimp	Crimp	1.12(28.6)■	.610(15.5)	.206(5.2)	—	C13	P2	D1	M23329/4-01,4-03	<b>31-2367</b>	1
142, 223, 400	Plug	Clamp	Solder	1.06(27.0)	.610(15.5)	.224(5.7)	—	C14	P1	D1	—	<b>79875</b>	2
58, 58B	Plug	SURETWIST®		1.47(37.3)	.610(15.5)	.181(4.6)	—	C15	P12	D15	—	<b>31-5245</b>	3
55, 58, 141	Angle Plug	Clamp	Solder	1.12(28.6)	.610(15.5)	.224(5.7)	1.58(40.1)	C14	P1	D1	—	<b>79075</b>	5
142, 223, 400		SURETWIST®		1.24(31.5)	.610(15.5)	.181(4.6)	1.71(43.4)	C15	P12	D15	—	<b>31-5242</b>	6
58, 58B		Crimp	Crimp	1.19(30.2)	.562(14.3)	.206(5.2)	1.58(40.1)■	C13	P2	D1	—	<b>31-2382</b>	7
58, 141													
59, 62, 140, 210	Plug	Crimp	Crimp	1.13(28.7)■	.610(15.5)	.261(6.6)	—	C13	P2	D1	M23329/4-05	<b>31-2368</b> ☆	1
											—	<b>69350</b>	
		Clamp	Solder	1.12(28.6)	.610(15.5)	.257(6.5)	—	C14	P1	D1	—	<b>79525</b>	2
		SURETWIST®		1.47(37.3)	.610(15.5)	.219(5.6)	—	C15	P12	D15	—	<b>31-5243</b>	3
	Angle Plug	QUICKTRIM®		1.03(26.2)	.610(15.5)	.252(6.4)	—	C16	P2	D1	—	<b>31-5061</b> ▲	4
		SURETWIST®		1.47(37.3)	.610(15.5)	.219(5.6)	—	C15	P12	D15	—	<b>31-5240</b>	6
59(20AWG CC)	Plug	Crimp	Crimp	1.19(30.2)	.562(14.3)	.261(6.6)	1.58(40.1)■	C13	P2	D1	—	<b>31-2383</b>	7
		Crimp	Crimp	1.13(28.7)■	.610(15.5)	.261(6.6)	—	C13	P2	D1	—	<b>69350-1001</b>	1
Plenum 59,62	Plug	SURETWIST®		1.47(37.3)	.610(15.5)	.181(4.6)	—	C15	P12	D15	—	<b>31-5371</b>	3
Plenum 62 IBM 4885584	Plug	QUICKTRIM®		1.07(27.3)	.610(15.5)	.235(6.0)	—	C16	P1	D1	—	<b>31-5108</b>	4
Belden 8281	Plug	SURETWIST®		1.47(37.3)	.610(15.5)	.275(7.0)	—	C15	P12	D15	—	<b>31-5244</b>	3
	Angle Plug			1.24(31.5)			1.71(43.4)					<b>31-5241</b>	6
Mini-8X, Belden 9258	Plug	Crimp	Crimp	1.12(28.6)	.594(15.1)	.261(6.6)	—	C13	P53	D1	—	<b>31-5634</b>	1
Belden 9268	Plug	QUICKTRIM®		1.03(26.2)	.610(15.5)	.275(7.0)	—	C16	P1	D1	—	<b>31-5062</b>	4

■ to end of crimp ferrule • accommodates cable diameter \* recognized under the component program of U.L. Inc. ▲ Wang 350-2074 ☆ = Preferred for new designs

# TNC straight and bulkhead jacks, receptacles, adapters, caps



## TNC PANEL & BULKHEAD RECEPTACLES, STRAIGHT & BULKHEAD ADAPTERS, CAPS

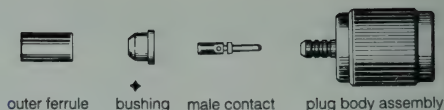
Cable RG-/U	Connector Type	Terminal Type	Dimensions, inches (millimeters)			CAI	Plt.	Ins.	MTG Hole	Military Number	Amphenol Number	Fig.
			a	b	e							
55, 142	Jack, Crimp-Crimp	—	1.17(29.7)	.220(5.6)•	—	C13	P53	D1	—	M23329/4-08, 4-10	31-2380	1
58, 141	Jack, Crimp-Crimp	—	1.17(29.7)	.206(5.2)•	—	C13	P53	D1	—	M23329/4-07, 4-09	31-2374	1
	Bulkh Jack, Crimp-Crimp	—	1.41(35.7)	.206(5.2)•	.250(6.4)	C13	P53	D1	Y	M23329/4-13, 4-15	31-2389	2
59	Jack, Crimp-Crimp	—	1.18(30.0)	.261(6.6)•	—	C13	P53	D1	—	M23329/4-11	31-2375	1
59, 62	Bulkh Jack, Crimp, Crimp	—	1.42(36.0)	.261(6.6)•	.250(6.4)	C13	P6	D1	Y	M39012/28-0012	31-2264	2
174, 188, 316	Bulkh Jack, Crimp, Crimp	—	1.41(35.7)	.120(3.0)•	.250(6.4)	C13	P53	D1	Y	—	31-2318	2
Panel Receptacle 4 hole .687*(17.4mm) Square Flange No. 3-56 Tapped Flange Holes		Solder Cup	1.06(27.0)	.687(17.5)	.187(4.8)☆	—	P2	D1	K	—	31-2300	3
Bulkhead Receptacle, Front Mount, Isolated From Panel, White Molded Thermoplastic Ins.		Solder Cup, Ground Tab	1.19(30.2)	.500(12.7)	.187(4.8)	—	P1	D12	Z	—	31-4805 †	4
Bulkhead Receptacle, Front Mount		Solder Cup	1.06(27.0)	.500(12.7)	.118(2.9)	—	P2	D1	G	—	31-2301 ▲	5
Bulkhead Adapter, Jack-Jack Isolated from Panel, White Thermoplastic Ins.		—	1.28(32.5)	.625(15.9)	.190(4.8)	—	P1 P54	D12	Y	(Silver Plt Cont) (Gold Plt Cont)	31-4804 31-4804-1000	6
Bulkhead Adapter, Jack-Jack, Isolated from Panel, Metal Mt Thds, d dim. = .503(12.8)		—	1.33(33.8)	.625(15.9)	.187(4.8)	—	P6	D1	Y	—	31-5561	7
Bulkhead Adapter, Jack-Jack/Gasketed d dim. = .640(16.2)		—	.141(35.7)	.750(19.0)	.171(4.3)	—	P1	D11	Y	(Wang 350-3055)	79100	7
Straight Adapter Jack-Jack		—	1.28(52.5)	.437(11.1)	—	—	P1	D1	—	(Wang 350-2076)	31-4791	8
Male Cap & Chain		—	.375(9.5)	.562(14.3)	4.00(101.6)	—	P3	—	—	—	78750	9

▲ If ground for a cable shield is needed inside the panel, use lug 31-759  
If a ground wire to circuit inside the panel is needed, use lug 31-10152

† recommended torque value 12 lbf-in. max. • I.D. of crimp ferrule  
■ To end of crimp ferrule ☆ max. panel when rear mounted thru panel

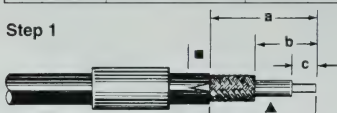
# TNC assembly instructions - C13

## CRIMP TYPES



Amphenol Number	Connector Type	Cable RG-U	Hex Crimp Data				Stripping Dimensions, inches (mm)		
			Cavity for Contact	Cavity for Outer Ferrule	Die Set for Tool 227-944	CTL Series Tool No.	a	b	c
31-2264	TNC Bulkhead Jack	59, 62	.068(1.7)	.255(6.5)	227-1221-13	CTL-1	.593(15.1)	.250(6.4)	.156(4.0)
31-2318	TNC Bulkhead Jack	174, 188, 316	.068(1.7)	.178(4.5)	227-1221-09	CTL-2			
31-2367	TNC Plug	58, 141	.068(1.7)	.213(5.4)	227-1221-11	CTL-1	.593(15.1)	.250(6.4)	.156(4.0)
31-2368	TNC Plug	59, 62	.068(1.7)	.255(6.5)	227-1221-13				
31-2374	TNC Jack	58, 141	.068(1.7)	.213(5.4)	227-1221-11				
31-2375	TNC Jack	59, 62	.068(1.7)	.255(6.5)	227-1221-13				
31-2380	TNC Jack	55, 142	.068(1.7)	.213(5.4)	227-1221-11	CTL-1	.578(14.7)	.328(8.3)	.125(3.2)
31-2382	TNC Angle Plug	58, 141	.068(1.7)	.213(5.4)	227-1221-11				
31-2383	TNC Angle Plug	59, 62	.068(1.7)	.255(6.5)	227-1221-13				
31-2389	TNC Bulkhead Jack	58, 141	.068(1.7)	.213(5.4)	227-1221-11				
31-5634	TNC Plug	Mini-8X, B9258	.068(1.7)	.255(6.5)	227-1221-13	CTL-1	.593(15.1)	.250(6.4)	.156(4.0)
36825	TNC Plug	58, 141	.068(1.7)	.213(5.4)	227-1221-11				
69350	TNC Plug	59, 62	.068(1.7)	.255(6.5)	227-1221-13				
69350-1001	TNC Plug	59 (20 AWG CC)	.068(1.7)	.255(6.5)	227-1221-13				

### Step 1



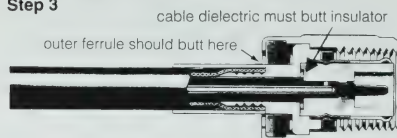
■ ▲ For RG-174, 179, 187, 188, 316/U cables only, slit jacket back .100" (2.5mm) as shown. Before attaching center contact, slide metal spacer/TFE sleeve (not shown) over cable dielectric. The center contact should butt against the dielectric and TFE sleeve.

### Step 2



contact must butt against cable dielectric

### Step 3



cable dielectric must butt insulator  
outer ferrule should butt here

**Step 1** Strip cable jacket, braid, and dielectric to dimensions in table above. All cuts are to be sharp and square. Important: Do not nick braid, dielectric, and center conductor. Slide outer ferrule onto cable as shown.

**Step 2** Flare slightly end of cable braid as shown to facilitate insertion of inner ferrule. Important: Do not comb out braid. ▲ Place contact on cable center conductor so that it butts against cable dielectric. Crimp contact in place using Die Set Cavity indicated in table above.

**Step 3** Install cable assembly into body assembly so that inner ferrule portion slides under braid. Push cable assembly forward until contact snaps into place in insulator. Slide outer ferrule over braid and up against connector body. Crimp outer ferrule using Die Set Cavity in table above.

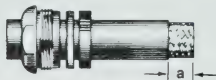
♦ This part is used only with RG-62 cable

# TNC assembly instructions - C14

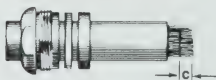
## CLAMP TYPES



### Step 1



### Step 2



### Step 3



### Step 4



Amphenol Number	Conn. Type	Cable	Stripping Dimensions, In.(mm)	
			a	c
79075	TNC Angle Plug	RG-58	.281(7.1)	.109(2.8)
79525	TNC Plug	RG-59	.266(6.7)	.109(2.8)
79875	TNC Plug	RG-58	.281(7.1)	.109(2.8)

**Step 1** Place nut, washer and gasket over cable and strip jacket to dimension **a** shown in table above.

**Step 2** Comb out braid and fold out. Trim insulation off center conductor to dimension **c** shown in table above. [For RG-62, 71 and 210/U cable, trim an additional .032" (0.8mm) of insulation off center conductor and add bushing.] Tin center conductor.

Pull braid wires forward and taper toward center conductor. Place clamp over braid and push back against cable jacket.

**Step 3** Fold back braid wires as shown, trim to proper length [.125" (3.2mm)] and form over clamp as shown. Solder contact to center conductor

**Step 4** Insert cable and parts into connector body. Make sure sharp edge of clamp seats properly in gasket. Tighten nut.

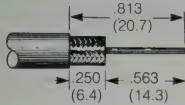
♦ This part used only with RG-62 cable



## TNC SURETWIST® assembly instructions - C15

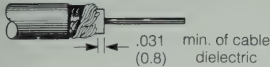
The following instructions are identical for all configurations of BNC SURETWIST® connectors

### Step 1



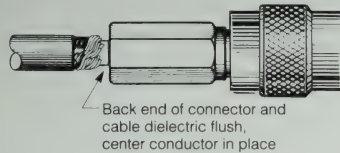
Strip cable as shown. Take care not to nick center conductor or outer braid.

### Step 2



Twist outer braid in a clockwise direction so that at least 1/32" of cable dielectric is bared, and braid is left flat. (Stray or loose braid can cause shorts.)

### Step 3



Gently insert center conductor into back end of connector, "feeling" it into the guide hole. (If center conductor is NOT properly in place, about 1/8" of center conductor will show at the back end. Reinsert until cable dielectric reaches position shown in illustration.)

Cable ☆ RG-U	Connector Type	Amphenol Number
58	TNC Plug	<b>31-5245</b>
	TNC Angle Plug	<b>31-5242</b>
59	TNC Plug	<b>31-5243</b>
	TNC Angle Plug	<b>31-5240</b>
Belden 8281 Times AA-5236 Amphenol 21-1060-7	TNC Plug	<b>31-5244</b>
	TNC Angle Plug	<b>31-5241</b>
Plenum 59, 62 Belden 89269, 86262 Times AA-6074, AA-6075	TNC Plug	<b>31-5371</b>

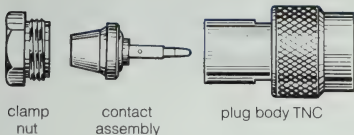
☆ for solid center conductor cables only.

### Step 4



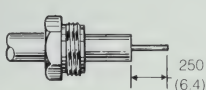
Push the cable firmly home (as far as possible). Then screw the connector onto the cable in a clockwise direction until it stops. Assembly is complete.

## TNC QUICKTRIM® assembly instructions - C16

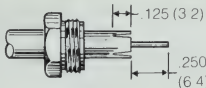


dimensions, inches (millimeters)

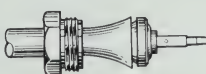
### Step 1A



### Step 1B



### Step 2



### Step 3



### Step 4



Amphenol Number	Cable RG-U	Center Contact Affixment		
		Hex Size	Die Set for Tool 227-944	CTL Series Tool Number
31-5061	59, 59A, 62, 62A	.068(1.7)	227-1221-13 Cavity B	CTL-1
31-5062	Belden 9268 Montrose CBL-5098			
31-5108	Plenum 62 IBM 4885584	Solder Center Conductor		

**Step 1A** For all cables listed, except Plenum 62. Slide clamp nut over cable. Strip cable to dimension shown. Cut braid and dielectric square. Do not nick center conductor.

**Step 1B** For Plenum 62 (IBM 4885584). Same as step 1A, and then slit jacket back .125"(3.2 mm) in four places 90° apart as shown in illustration.

**Step 2** Slide contact assembly under braid and jacket until braid butts as shown. Use caution that braid slides over contact assembly and not inside of it. Be sure center conductor is visible through side hole of contact. Crimp contact to conductor using Amphenol CTL-1 crimp tool; or by using die set 227-1221-13 cavity B in tool frame 227-944 or pneumatic crimp tool 227-60 or solder contact to conductor

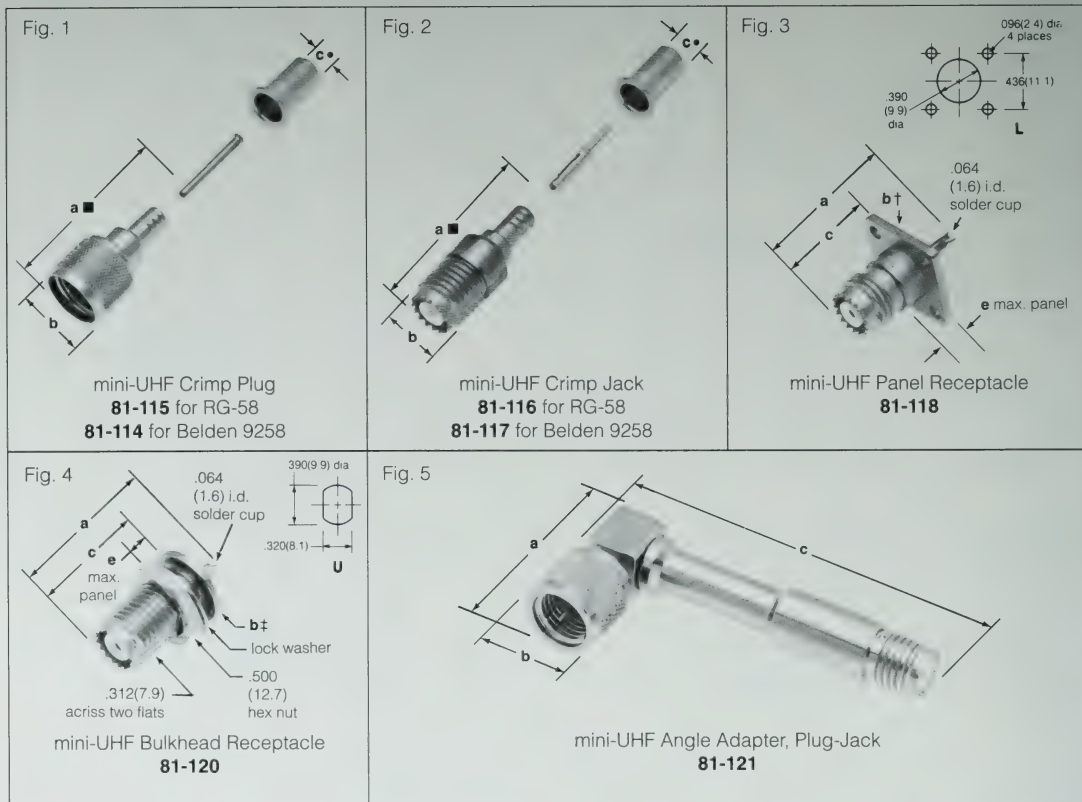
**Step 3** Insert into connector body.

**Step 4** Tighten clamp nut to a torque of 35 lbf-in.

## mini-UHF connectors

Amphenol® mini-UHF connectors are designed for use as coaxial interconnections in cellular mobile telephone systems and similar applications where size, weight, and

cost factors are critical. These 50Ω connectors operate DC-2.5 GHz with low reflection and have a voltage rating of 335 V peak. See specifications, page 20.



### MINI-UHF CONNECTORS • 3/8-24 thread coupling

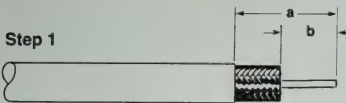
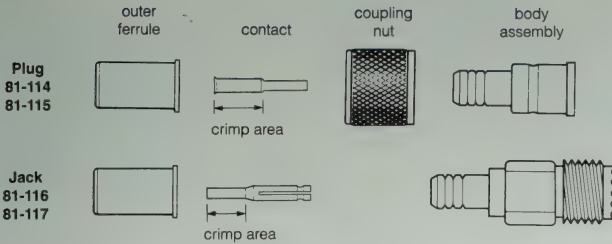
Cable RG/U	Connector Description	Cable Attachment		Dimensions, inches (millimeters)				Construction Notes				Mfg. Hole	Amphenol Number	Fig.
		Outer	Inner	a	b	c	e	CAI	Plt.	Ins.				
<b>58</b>	Plug	Crimp	Crimp	1.14(28.9)	.447(11.3)	.206(5.2)•	—	C8	P12	D14	—	—	<b>81-115</b>	1
	Jack	Crimp	Crimp	1.17(29.7)	.375(8.5)	.206(5.2)•	—	C8	P12	D14	—	—	<b>81-116</b>	2
<b>Belden 9258, Times AA-3096, Amphenol 621-6003</b>	Plug	Crimp	Crimp	1.21(30.7)	.447(11.3)	.256(6.5)•	—	C8	P12	D14	—	—	<b>81-114</b>	1
	Jack	Crimp	Crimp	1.25(31.7)	.375(9.5)	.256(6.5)•	—	C8	P12	D14	—	—	<b>81-117</b>	2
—	Panel Receptacle	Solder Cup Terminal		.925(23.5)	.625(15.9)sq	.487(12.4)	.187(4.7)	—	P12	D14	L	—	<b>81-118</b>	3
—	Bulkhead Receptacle	Solder Cup Terminal		.901(22.9)	.500(12.7)dia	.630(16.0)	.125(3.2)	—	P12	D14	U	—	<b>81-120</b>	4
—	Angle Adapter (P-J)	—		.995(25.3)	.512(13.0)	2.56(65.4)	—	—	P12	D14	—	—	<b>81-121</b>	5

† b flange is .625(15.9) sq by .062(1.6) thick

‡ b flange is .500(12.7) dia. by .082(2.1) thick

• accommodates cable dia.

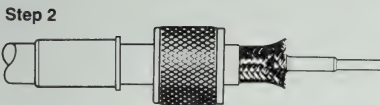
# mini-UHF assembly instructions - C8



Step 1

**Step 1** Strip cable jacket, braid, and dielectric to dimensions given below. All cuts are to be sharp and square. **Important:** do not nick braid, dielectric, or center conductor.

Amphenol Number	Connector Type	Cable RG-U	Strip Dimensions, inches (mm)		Crimp Data			
			a	b	Cavity for Contact	Cavity for Outer Ferrule	Die Set for Tool 227-944	CTL Series Tool Number
81-114	mini-UHF Plug	B 9258	.656(16.7)	.281(7.1)	.068(1.7)	.255(6.5)	227-1221-13	CTL-1
81-115	mini-UHF Plug	58	.656(16.7)	.281(7.1)	.052(1.3) Sq.	.213(5.4)	227-1409	CTL-1
81-116	mini-UHF Jack	58	.500(12.7)	.219(5.5)	.052(1.3) Sq.	.213(5.4)	227-1409	CTL-1
81-117	mini-UHF Jack	B 9258	.500(12.7)	.219(5.5)	.068(1.7)	.255(6.5)	227-1221-13	CTL-1



Step 2

**Step 2** Slide outer ferrule onto cable as shown. (For straight plugs, slide coupling nut onto cable, keeping the open end of the nut toward the stripped end of the cable.) Flare slightly end of cable braid as shown to facilitate insertion of inner ferrule. **Important:** Do not comb out braid.

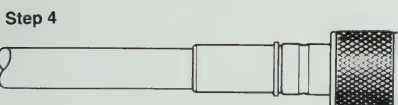
For straight plugs and jacks place contact on cable center conductor so it butts against cable dielectric. Crimp contact in place using Tool Handle and Die Set Cavity shown in Table above.

For Angle Plug 81-126, insert stripped cable into body assembly so that inner ferrule slides between cable braid and dielectric, and cable center conductor slides into position in back end of center contact — visible through back end of right angle. Then solder center conductor into center contact using soft solder, rosin core per QQ-S 571 comp Sn 60. Then insert circular cap in recess and solder in place or center punch to flatten in place.



Step 3

**Step 3** For straight plugs and jacks install cable assembly into body assembly so inner ferrule portion slides under braid. Push cable assembly forward until cable dielectric seats against connector insulator.



Step 4

**Step 4** (For straight plugs, slide coupling nut forward over body assembly as shown.) Slide outer ferrule over braid and up against connector body, holding connector body firmly in place. Crimp outer ferrule using Tool Handle and Die Set Cavity shown in table above.

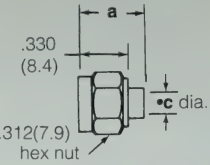
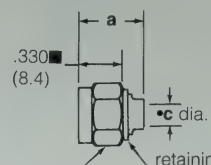
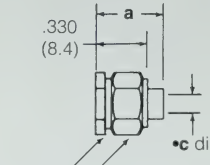
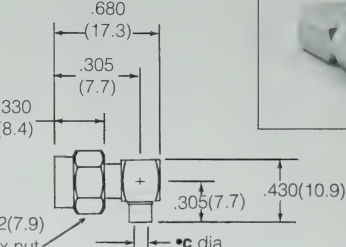
Amphenol will also manufacture complete cable assemblies to customer specifications. For information, contact your nearest Amphenol RF/Microwave products representative.



## SMA coaxial connectors

Amphenol® SMA connector designs include a wide range of configurations to meet popular envelope and electronic requirements for semi-rigid and flexible cable connectors, receptacles and adapters.

These semi-precision, subminiature units provide broadband 50Ω performance with low reflection DC-18 GHz (high performance types to 26.5 GHz) depending on cable. See specifications, page 22.

<p>Fig. 1 VSWR = 1.035+ .005f(GHz) DC-18GHz</p>  <p>SMA Plug - Solder to Body</p> <table border="1"> <tr> <td>.086" (2.2mm) S/R RG-405 (M17/133)</td> <td><b>901-9201-2A</b> Gold Plated Nut [VSWR = 1.07 + .008f(GHz) DC - 18GHz]</td> </tr> <tr> <td>.141" (3.6mm) S/R RG-402 (M17/130)</td> <td><b>901-9201-1A</b> Gold Plated Nut, without Contact &amp; Insulator</td> </tr> <tr> <td></td> <td><b>901-9201-1ASF</b> Passivated Nut, without Contact &amp; Insulator</td> </tr> </table>	.086" (2.2mm) S/R RG-405 (M17/133)	<b>901-9201-2A</b> Gold Plated Nut [VSWR = 1.07 + .008f(GHz) DC - 18GHz]	.141" (3.6mm) S/R RG-402 (M17/130)	<b>901-9201-1A</b> Gold Plated Nut, without Contact & Insulator		<b>901-9201-1ASF</b> Passivated Nut, without Contact & Insulator	<p>Fig. 2 VSWR = 1.35 max. DC-26.5GHz</p>  <p>SMA Plug - Solder to Body/ Press Fit Cable Center Conductor into Pre-Installed Center Contact/Passivated Nut</p> <table border="1"> <tr> <td>.086" (2.2mm) S/R RG-405 (M17/133)</td> <td><b>901-9723</b></td> </tr> <tr> <td>.141" (3.6mm) S/R RG-402 (M17/130)</td> <td><b>901-9808</b></td> </tr> </table> <p>■ nut for 901-9723 is .280(7.1) long</p>	.086" (2.2mm) S/R RG-405 (M17/133)	<b>901-9723</b>	.141" (3.6mm) S/R RG-402 (M17/130)	<b>901-9808</b>				
.086" (2.2mm) S/R RG-405 (M17/133)	<b>901-9201-2A</b> Gold Plated Nut [VSWR = 1.07 + .008f(GHz) DC - 18GHz]														
.141" (3.6mm) S/R RG-402 (M17/130)	<b>901-9201-1A</b> Gold Plated Nut, without Contact & Insulator														
	<b>901-9201-1ASF</b> Passivated Nut, without Contact & Insulator														
.086" (2.2mm) S/R RG-405 (M17/133)	<b>901-9723</b>														
.141" (3.6mm) S/R RG-402 (M17/130)	<b>901-9808</b>														
<p>Fig. 3 VSWR = 1.05+ .01f(GHz) DC-18GHz</p>  <p>SMA Plug - Compression Crimp - Passivated Nut ‡</p> <table border="1"> <tr> <td>.086" (2.2mm) S/R RG-405 (M17/133)</td> <td><b>901-613</b> [VSWR = 1.07 + .01f(GHz) DC - 18GHz]</td> </tr> <tr> <td>.141" (3.6mm) S/R RG-402 (M17/130)</td> <td><b>901-606</b> without Contact &amp; Insulator</td> </tr> <tr> <td></td> <td><b>901-614</b></td> </tr> </table>	.086" (2.2mm) S/R RG-405 (M17/133)	<b>901-613</b> [VSWR = 1.07 + .01f(GHz) DC - 18GHz]	.141" (3.6mm) S/R RG-402 (M17/130)	<b>901-606</b> without Contact & Insulator		<b>901-614</b>	<p>Fig. 4 VSWR = 1.35 max. DC-18GHz</p>  <p>SMA Angle Plug - Solder to Body</p> <table border="1"> <tr> <td>.086" (2.2mm) S/R RG-405 (M17/133)</td> <td><b>901-9221-2A</b> Gold Plated Nut</td> </tr> <tr> <td></td> <td><b>901-9221-2ASF</b> Passivated Nut</td> </tr> <tr> <td>.141" (3.6mm) S/R RG-402 (M17/130)</td> <td><b>901-9221-1A</b> Gold Plated Nut</td> </tr> <tr> <td></td> <td><b>901-9221-1ASF</b> Passivated Nut</td> </tr> </table>	.086" (2.2mm) S/R RG-405 (M17/133)	<b>901-9221-2A</b> Gold Plated Nut		<b>901-9221-2ASF</b> Passivated Nut	.141" (3.6mm) S/R RG-402 (M17/130)	<b>901-9221-1A</b> Gold Plated Nut		<b>901-9221-1ASF</b> Passivated Nut
.086" (2.2mm) S/R RG-405 (M17/133)	<b>901-613</b> [VSWR = 1.07 + .01f(GHz) DC - 18GHz]														
.141" (3.6mm) S/R RG-402 (M17/130)	<b>901-606</b> without Contact & Insulator														
	<b>901-614</b>														
.086" (2.2mm) S/R RG-405 (M17/133)	<b>901-9221-2A</b> Gold Plated Nut														
	<b>901-9221-2ASF</b> Passivated Nut														
.141" (3.6mm) S/R RG-402 (M17/130)	<b>901-9221-1A</b> Gold Plated Nut														
	<b>901-9221-1ASF</b> Passivated Nut														

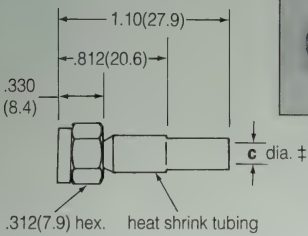
### SMA PLUGS & ANGLE PLUGS FOR SEMI-RIGID CABLE • 50Ω impedance

Cable RG-/U	Conn. Type	Cable Attachment		CAI	Pit.	Ins.	Construction Notes	Dim. a	Dim. c	Mil. M39012/	Amphenol Number	Fig.
.086" (2.2mm) Semi-Rigid RG-405 (M17/133)	Plug	Solder	Solder	C19	P37	D1	—	.438(11.1)	.090(2.3)	—	<b>901-9201-2A</b>	1
		Solder	Press Fit	C17	P21	D1	Pre-Inst. Ctr Cont.	.400(10.2)	.090(2.3)	—	<b>901-9723</b>	2
		Compression Crimp		C21	P22	D1	—	.589(15.0)	.090(2.3)	79-3207 79-3307	<b>901-613</b> <b>901-613-11★</b> <b>901-613-51</b>	3
	Angle Plug	Solder	Solder	C20	P19 P21	D1	—	.680(17.3)	.090(2.3)	—	<b>901-9221-2A</b> <b>901-9221-2ASF</b>	4
		Solder	None	C17	P24 P25	—	Without Contact & Insulator	.445(11.3)	.145(3.7)	—	<b>901-9201-1A</b> <b>901-9201-1ASF</b>	1
.141" (3.6mm) Semi-Rigid RG-402 (M17/130)	Plug	Solder	Press fit	C17	P21	D1	Pre-Inst. Ctr Cont.	.438(11.1)	.145(3.7)	—	<b>901-9808</b>	2
		Comp. Crimp	None	C21	P35	—	Without Contact & Insulator	.465(11.8)	.145(3.7)	92-3201 92-3301	<b>901-606</b> <b>901-606-11★</b> <b>901-606-51</b>	3
		Solder		C21	P22	D1	—	.589(15.0)	.145(3.7)	79-3208 79-3308	<b>901-614</b> <b>901-614-11★</b> <b>901-614-51</b>	3
		Angle Plug	Solder	C20	P19 P21	D1	—	.680(17.3)	.145(3.7)	—	<b>901-9221-1A</b> <b>901-9221-1ASF</b>	4
	Plug	Solder	Solder	C19	P37	D1	—	.438(11.1)	.090(2.3)	—	<b>901-9201-2A</b>	1
		Solder	Press Fit	C17	P21	D1	Pre-Inst. Ctr Cont.	.400(10.2)	.090(2.3)	—	<b>901-9723</b>	2
		Compression Crimp		C21	P22	D1	—	.589(15.0)	.090(2.3)	79-3207 79-3307	<b>901-613</b> <b>901-613-11★</b> <b>901-613-51</b>	3

• accommodates cable dia. ★ safety wire holes ‡ for removable crimp sleeve information, see page 90

# SMA cable connectors

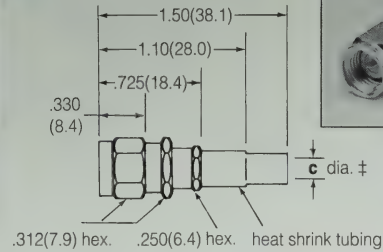
Fig. 1 VSWR = 1.15+ .01 f(GHz)  
on 50Ω cable\*



SMA Plug - Braid Crimp/Crimp Center Contact/  
with Passivated Body & Nut

RG-55, 142, 223, 400	<b>901-9511-1SFC</b>
RG-174, 179, 187, 188, 316	<b>901-9511-1SFC</b>
Double Braid RG-316	<b>901-9511-12SFC</b>

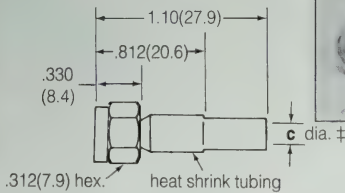
Fig. 2 VSWR = 1.15+ .01 f(GHz)  
on 50Ω cable\*



SMA Plug - Braid Crimp/Captivated Solder Contact

RG-55, 142, 223, 400	<b>901-9601-1</b>	Gold Plt. Body & Nut
	<b>901-9601-1SF</b>	Passivated Body & Nut
RG-174, 179, 187, 188, 316	<b>901-9601-3</b>	Gold Plt. Body & Nut
	<b>901-9601-3SF</b>	Passivated Body & Nut

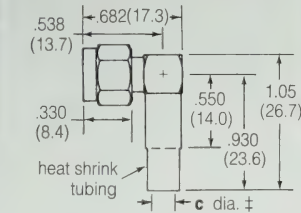
Fig. 3 VSWR = 1.15+ .01 f(GHz)  
on 50Ω cable\*



SMA Plug - Braid Crimp/Non-Captivated Solder Contact

RG-55, 142, 223, 400	<b>901-9511-1</b>	Gold Plt. Body & Nut
	<b>901-9511-1SF</b>	Passivated Body & Nut
RG-174, 179, 187, 188, 316	<b>901-9511-3</b>	Gold Plt. Body & Nut
	<b>901-9511-3SF</b>	Passivated Body & Nut
Double Braid RG-316	<b>901-9511-12SF</b>	Passivated Body & Nut

Fig. 4 VSWR = 1.18+ .02 f(GHz)  
on 50Ω cable\*



SMA Angle Plug - Braid Crimp, Solder Contact

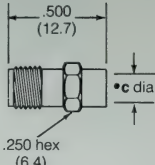

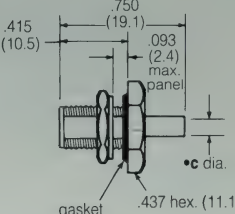

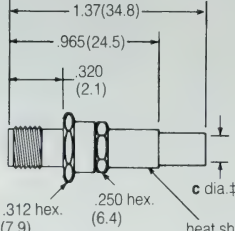

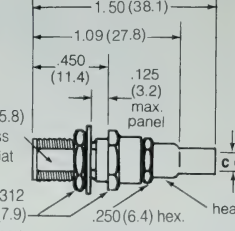

RG-55, 142, 223, 400	<b>901-9531-1</b>	Gold Plt. Body & Nut
	<b>901-9531-1SF</b>	Passivated Body & Nut
RG-174, 179, 187, 188, 316	<b>901-9531-3</b>	Gold Plt. Body & Nut
	<b>901-9531-3SF</b>	Passivated Body & Nut
Double Braid RG-316	<b>901-9531-12</b>	Gold Plt. Body & Nut
	<b>901-9531-12SF</b>	Passivated Body & Nut

## SMA PLUGS & ANGLE PLUGS FOR FLEXIBLE CABLE • 50Ω impedance

Cable RG-U	Conn. Type	Cable Attachment		c Dim In. (mm)	CAI	Plt.	Ins.	Construction Notes	Amphenol Number	Fig.
		Outer	Inner							
RG-55,142,223,400	Plug	Braid Crimp	Solder	.220(5.6)±	C18	P17 P22	D1	Captivated Contact	<b>901-9601-1</b> <b>901-9601-1SF</b>	2
		Braid Crimp	Solder	.220(5.6)±	C18	P18 P23	D1	Non-Captive Contact	<b>901-9511-1</b> <b>901-9511-1SF</b>	3
		Crimp	Crimp	.220(5.6)±	C23	P23	D1	—	<b>901-9511-1SFC</b>	1
	Angle Plug	Braid Crimp	Solder	.220(5.6)±	C18	P19 P23	D1	Captivated Contact	<b>901-9531-1</b> <b>901-9531-1SF</b>	4
		Braid Crimp	Solder	.128(3.3)±	C18	P17 P22	D1	Captivated Contact	<b>901-9601-3</b> <b>901-9601-3SF</b>	2
RG-174,179,187,188,316	Plug	Braid Crimp	Solder	.128(3.3)±	C18	P18 P23	D1	Non-Captive Contact	<b>901-9511-3</b> <b>901-9511-3SF</b>	3
		Crimp	Crimp	.128(3.5)±	C23	P25	D1	—	<b>901-9511-3SFC</b>	1
	Angle Plug	Braid Crimp	Solder	.128(3.3)±	C18	P19 P23	D1	Captivated Contact	<b>901-9531-3</b> <b>901-9531-3SF</b>	4
	Plug	Br.Crimp	Solder	.142(3.6)	C18	P23	D1	Non-Captive Contact	<b>901-9511-12SF</b>	3
		Crimp	Crimp	.142(3.6)	C23	P23	D1	—	<b>901-9511-12SFC</b>	1
Dbl. Braid RG-316	Angle Plug	Braid Crimp	Solder	.142(3.6)	C18	P19 P23	D1	Captivated Contact	<b>901-9531-12</b> <b>901-9531-12SF</b>	4

± i.d. of outer crimp ferrule \* to maximum operating frequency of cable per MIL-C-17

## SMA cable connectors

<p>Fig. 1 VSWR 1.14 max. DC-18 GHz</p>  <p>SMA Jack - Solder to Body, Solder Center Contact</p>		<p>Fig. 2 VSWR 1.14 max. DC-18 GHz</p>  <p>SMA Bulkhead Jack - Solder to Body, Solder Center Contact</p>	
<p>.141" (3.6mm) S/R RG-402 (M17/130)</p>	<p><b>901-9202-1A</b> Gold Plated</p>	<p>.086" (2.2mm) S/R RG-405 (M17/133)</p>	<p><b>901-9210-2</b> Gold Plated</p>
<p>Fig. 3 VSWR* = 1.15+/- .1 f(GHz) on 50Ω cable</p>  <p>SMA Jack - Braid Crimp, Solder Center Contact</p>		<p>Fig. 4 VSWR* = 1.15+/- .1 f(GHz) on 50Ω cable</p>  <p>SMA Bulkhead Jack - Braid Crimp, Solder Center Contact</p>	
<p>RG-55, 142, 223, 400</p>	<p><b>901-9602-1</b> Gold Plated</p>	<p>RG-55, 142, 223, 400</p>	<p><b>901-9610-1</b> Gold Plated</p>
<p>RG-174, 179, 187, 188, 316</p>	<p><b>901-9602-1SF</b> Passivated</p>	<p>RG-174, 179, 187, 188, 316</p>	<p><b>901-9610-1SF</b> Passivated</p>
<p>RG-55, 142, 223, 400</p>	<p><b>901-9602-3</b> Gold Plated</p>	<p>RG-174, 179, 187, 188, 316</p>	<p><b>901-9610-3</b> Gold Plated</p>
<p>RG-174, 179, 187, 188, 316</p>	<p><b>901-9602-3SF</b> Passivated</p>	<p>Dbl. Braid RG-316</p>	<p><b>901-9610-3SF</b> Passivated</p>
<p>RG-55, 142, 223, 400</p>	<p><b>901-9610-1</b> Gold Plated</p>	<p>RG-55, 142, 223, 400</p>	<p><b>901-9610-1SF</b> Passivated</p>
<p>RG-174, 179, 187, 188, 316</p>	<p><b>901-9610-3</b> Gold Plated</p>	<p>RG-174, 179, 187, 188, 316</p>	<p><b>901-9610-3SF</b> Passivated</p>
<p>RG-174, 179, 187, 188, 316</p>	<p><b>901-9610-12SF</b> Passivated</p>	<p>Dbl. Braid RG-316</p>	<p><b>901-9610-12SF</b> Passivated</p>

### SMA JACKS & BULKHEAD JACKS FOR SEMI-RIGID & FLEXIBLE CABLES • 50Ω Impedance

Cable RG-U	Conn. Type	Cable Attachment		c Dim In. (mm)	CAI	Pit.	Ins.	MTG Hole	Construction Notes	Amphenol Number	Fig.
.086" (2.2mm) Semi-Rigid RG-405 (M17/133)	Bulkhead Jack	Solder to Body	Solder	.090(2.3)•	C19	P17	D1	W	—	<b>901-9210-2</b>	2
	Jack	Solder to Body	Solder	1.45(3.7)•	C17	P18	D1	—	—	<b>901-9202-1A</b>	1
.141" (3.6mm) Semi-Rigid RG-402 (M17/130)	Bulkhead Jack	Solder to Body	Solder	1.45(3.7)•	C19	P18	D1	W	—	<b>901-9210-1</b>	2
	Jack	Braid Crimp	Solder	.220(5.6)‡	C2	P17 P30	D1	—	Captivated Contact	<b>901-9602-1</b> <b>901-9602-1SF</b>	3
RG-55,142,223,400	Bulkhead Jack	Braid Crimp	Solder	.220(5.6)‡	C22	P17 P31	D1	W	—	<b>901-9610-1</b> <b>901-9610-1SF</b>	4
	Jack	Braid Crimp	Solder	.128(3.3)‡	C22	P17 P30	D1	—	Captivated Contact	<b>901-9602-3</b> <b>901-9602-3SF</b>	3
RG-174,179,187,188,316	Bulkhead Jack	Braid Crimp	Solder	.128(3.3)‡	C18	P19 P23	D1	W	Captivated Contact	<b>901-9610-3</b> <b>901-9610-3SF</b>	4
	Bulkhead Jack	Braid Crimp	Solder	.142(3.6)‡	C22	P31	D1	W	—	<b>901-9610-12SF</b>	4

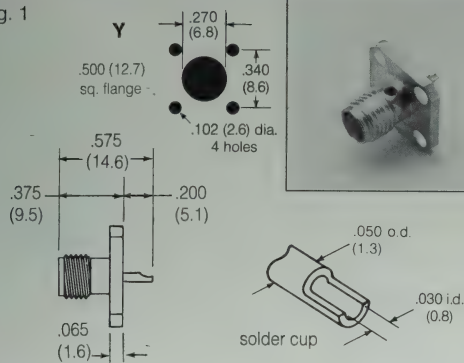
‡ i.d. of outer crimp ferrule • to maximum operating frequency of cable per MIL-C-17

• accommodates cable dia.



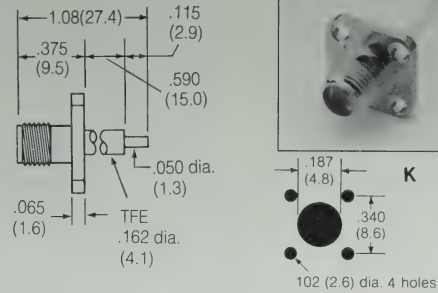
# SMA panel receptacles - square 4-hole flange

Fig. 1



SMA Panel Jack Receptacle/4-hole Sq. Flange Mount  
Solder Cup Terminal  
**901-9215** Gold Plated Body  
**901-9215-SF** Passivated Body

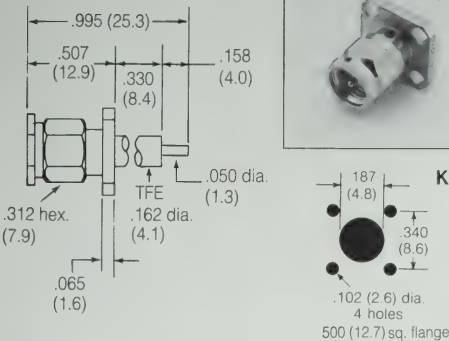
Fig. 2



SMA Panel Jack Receptacle/4-hole Sq. Flange Mount  
Exposed TFE/Blunt Post Terminal

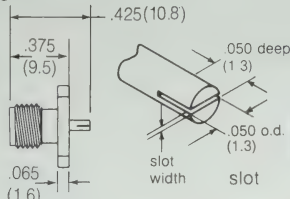
Contact Shipped Unassembled	<b>901-9204</b>	Gold Plated
	<b>901-9204-SF</b>	Passivated
Captive Contact	<b>901-9204-CC</b>	Gold Plated
	<b>901-9204-CCSF</b>	Passivated

Fig. 3



SMA Panel Plug Receptacle/4-hole Sq. Flange Mount  
Exposed TFE/Blunt Post Terminal  
**901-9214-CC** Gold Plated Body  
**901-9214-CCSF** Passivated Body

Fig. 4



SMA Panel Jack Receptacle/4-hole Sq. Flange Mount  
Slot Terminal

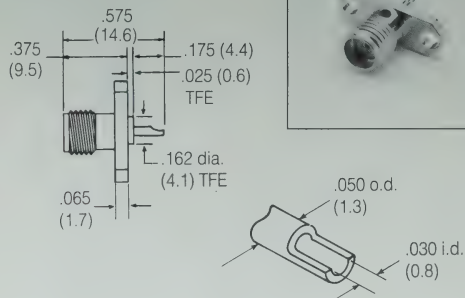
Slot Width		
.010" (0.3mm)	<b>901-9204-1CC</b>	Gold Plated Body
	<b>901-9204-1CCSF</b>	Passivated Body
.015" (0.4mm)	<b>901-9204-4CC</b>	Gold Plated Body
	<b>901-9204-4CCSF</b>	Passivated Body
.020" (0.5mm)	<b>901-9204-2CC</b>	Gold Plated Body
	<b>901-9204-2CCSF</b>	Passivated Body
.030" (0.8mm)	<b>901-9204-3CC</b>	Gold Plated Body
	<b>901-9204-3CCSF</b>	Passivated Body

## SMA PANEL RECEPTACLES • 4-hole square flange mount

Description	Terminal Type	Plt.	Ins	MTG. Hole	Construction Notes		Amphenol Number	Fig.
Panel Jack Receptacle	Solder Cup	P18	D1	Y	Captive Contact	Gold Plated Body	<b>901-9215</b>	1
		P23				Passivated Body	<b>901-9215-SF</b>	
Panel Jack Receptacle	Blunt Post	P18	D1	K	Contact Shipped Unassembled .590" (15.0mm) Exposed TFE	Gold Plated Body	<b>901-9204</b>	2
		P23				Passivated Body	<b>901-9204-SF</b>	
Panel Jack Receptacle	Blunt Post	P17	D1	K	Captive Contact/ .590" (15.0mm) Exposed TFE	Gold Plated Body	<b>901-9204-CC</b>	2
		P23				Passivated Body	<b>901-9204-CCSF</b>	
Panel Plug Receptacle	Blunt Post	P17	D1	K	Captive Contact/ .330" (8.4mm) Exposed TFE	Gold Plated Body	<b>901-9214-CC</b>	3
		P23				Passivated Body	<b>901-9214-CCSF</b>	
Panel Jack Receptacle	Slot .010" (0.3mm) wide	P17	D1	K	Captive Contact	Gold Plated Body	<b>901-9204-1CC</b>	4
		P30				Passivated Body	<b>901-9204-1CCSF</b>	
Panel Jack Receptacle	Slot .015" (0.4mm) wide	P17	D1	K	Captive Contact	Gold Plated Body	<b>901-9204-4CC</b>	4
		P30				Passivated Body	<b>901-9204-4CCSF</b>	
Panel Jack Receptacle	Slot .020" (0.5mm) wide	P17	D1	K	Captive Contact	Gold Plated Body	<b>901-9204-2CC</b>	4
		P30				Passivated Body	<b>901-9204-2CCSF</b>	
Panel Jack Receptacle	Slot .030" (0.8mm) wide	P17	D1	K	Captive Contact	Gold Plated Body	<b>901-9204-3CC</b>	4
		P30				Passivated Body	<b>901-9204-3CCSF</b>	

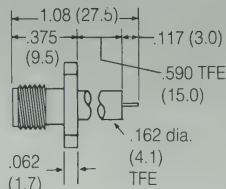
# SMA panel receptacles - trimline 2-hole flange

Fig. 1



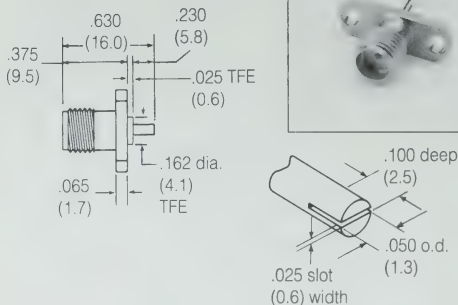
SMA Panel Jack Receptacle/2-hole Sq. Flange  
Solder Cup Terminal  
**901-9244-2** Gold Plated  
**901-9244-2SF** Passivated Finish

Fig. 2



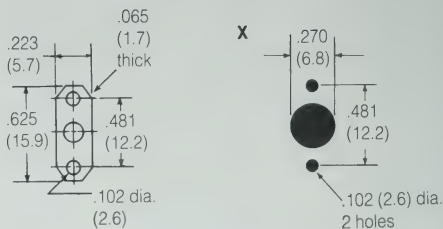
SMA Panel Jack Receptacle/2-hole Sq. Flange  
Exposed TFE/Blunt Post Terminal  
**901-9000-CC** Gold Plated  
**901-9000-CCSF** Passivated Finish

Fig. 3



SMA Panel Jack Receptacle/2-hole Sq. Flange  
Slot Terminal  
**901-9244-1** Gold Plated  
**901-9244-1SF** Passivated Finish

Fig. 4



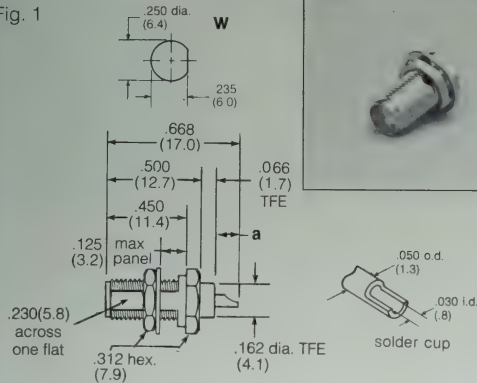
.223" Wide 2-hole Flange

## SMA PANEL RECEPTACLES • 2-hole square flange

Description	Terminal Type	Plt.	Ins	MTG. Hole	Construction Notes		Amphenol Number	Fig.
Panel Jack Receptacle	Solder Cup	P18	D1	X	Captive Contact/.025" (0.6 mm) Exposed TFE	Gold Plated	<b>901-9244-2</b>	1
		P23				Passivated	<b>901-9244-2SF</b>	
Panel Jack Receptacle	Blunt Post	P18	D1	X	Captive Contact/.590" (15.0 mm) Exposed TFE	Gold Plated	<b>901-9000-CC</b>	2
		P23				Passivated	<b>901-9000-CCSF</b>	
Panel Jack Receptacle	Slot .025" (0.6 mm) wide	P17	D1	X	Contact Shipped Unassembled/.025" (0.6 mm) Exposed TFE	Gold Plated	<b>901-9244-1</b>	3
						Passivated	<b>901-9244-1SF</b>	

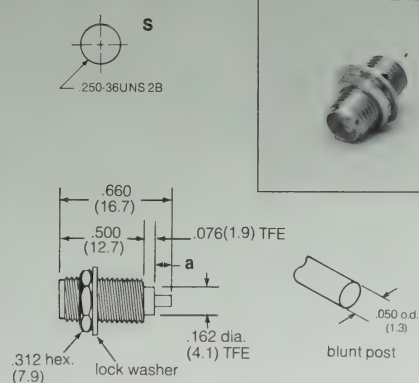
# SMA bulkhead & printed circuit receptacles

Fig. 1



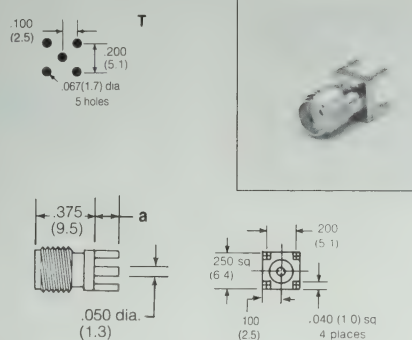
SMA Bulkhead Receptacle - Rear Mount  
Solder Cup Terminal  
**901-9211** Gold Plated  
**901-9211-SF** Passivated Finish

Fig. 2



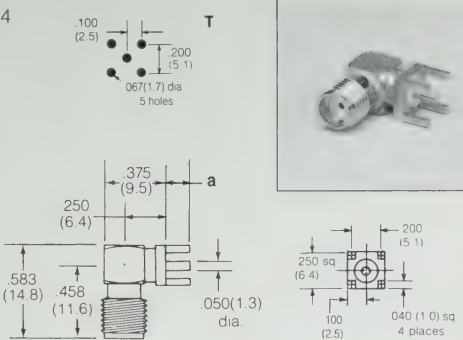
SMA Bulkhead Receptacle - Front or Rear Mount  
Blunt Post Terminal  
**901-9220** Gold Plated  
**901-9220-SF** Passivated Finish

Fig. 3



SMA Printed Circuit Receptacle - Gold Plated  
Blunt Post Terminal/Four Legs  
**901-144** .155(3.9) Legs & Term.  
**901-144-1** .093(2.4) Legs & Term.  
**901-144-2** .105(2.7) Solder Dipped Legs & Term.  
**901-144-3** .155(3.9) Solder Dipped Legs & Term.  
**901-144-4** .200(5.1) Legs & Term.

Fig. 4




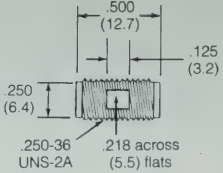

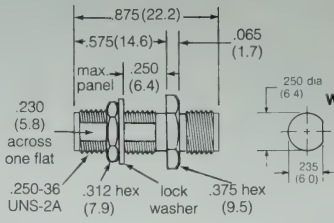

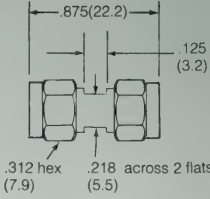

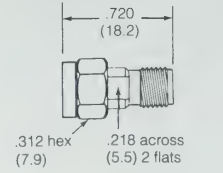
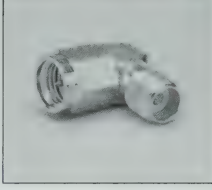
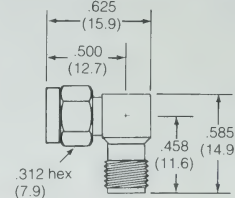

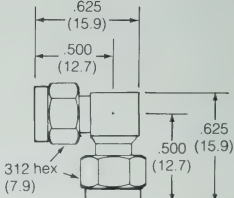
SMA Printed Circuit Angle Receptacle - Gold Plated  
Blunt Post Terminal/Four Legs  
**901-143** .155(3.9) Legs & Term.  
**901-143-3** .155(3.9) Solder Dipped Legs & Term.  
**901-143-4** .105(2.7) Solder Dipped Legs & Term.

## SMA BULKHEAD & PRINTED CIRCUIT RECEPTACLES • female contacts

Description	Terminal Type	Plt.	Ins	MTG. Hole	Construction Notes		Dim. a	Amphenol Number	Fig.
Bulkhead Jack Receptacle Rear Mount	Solder Cup	P18	D1	W	Captive Contact/.066"(1.7mm) Exposed TFE	Gold Plated	.102(2.6)	<b>901-9211</b>	1
		P23				Passivated		<b>901-9211-SF</b>	
Bulkhead Jack Receptacle Front or Rear Mount	Blunt Post	P18	D1	S	Captive Contact/.076"(1.9mm) Exposed TFE	Gold Plated	.084(2.1)	<b>901-9220</b>	2
		P23				Passivated		<b>901-9220-SF</b>	
Printed Circuit Board Straight Jack Receptacle	Blunt Post	P17	D1	T	Captive Contact/BeCu Body & Legs	—	.155(3.9)	<b>901-144</b>	3
						—	.093(2.4)	<b>901-144-1</b>	
						Solder Dipped Legs & Term	.105(2.7)	<b>901-144-2</b>	
						—	.155(3.9)	<b>901-144-3</b>	
Printed Circuit Board Angle Jack Receptacle	Blunt Post	P17	D1	T	Captive Contact/BeCu Body & Legs	—	.200(5.1)	<b>901-144-4</b>	4
						—	.155(3.9)	<b>901-143</b>	
						Solder Dipped Legs & Term	.155(3.9)	<b>901-143-3</b>	
							.105(2.7)	<b>901-143-4</b>	



## SMA in-series adapters

<p><b>Fig. 1</b></p> <p>DC-18 GHz 1.14 VSWR max.</p>   <p>SMA Straight Adapter Jack-Jack <b>901-9217</b> Gold Plated <b>901-9217-SF</b> Passivated Finish</p>	<p><b>Fig. 2</b></p> <p>DC-18 GHz 1.14 VSWR max.</p>   <p>SMA Bulkhead Adapter Jack-Jack <b>901-9209-A</b> Gold Plated <b>901-9209-ASF</b> Passivated Finish</p>	<p><b>Fig. 3</b></p> <p>DC-18 GHz 1.14 VSWR max.</p>   <p>SMA Straight Adapter Plug-Plug <b>901-9218</b> Gold Plated <b>901-9218-SF</b> Passivated Finish</p>
<p><b>Fig. 4</b></p> <p>DC-18 GHz 1.14 VSWR max.</p>   <p>SMA Straight Adapter Plug-Jack <b>901-9216</b> Gold Plated <b>901-9216-SF</b> Passivated Finish</p>	<p><b>Fig. 5</b></p> <p>DC-18 GHz 1.23 VSWR max.</p>   <p>SMA Angle Adapter Plug-Jack <b>901-9219-A</b> Gold Plated <b>901-9219-ASF</b> Passivated Finish</p>	<p><b>Fig. 6</b></p> <p>DC-18 GHz 1.23 VSWR max.</p>   <p>SMA Angle Adapter Plug-Plug <b>901-274</b> Gold Plated</p>

### SMA IN-SERIES ADAPTERS

Description	Plt.	Ins	Notes	MTG Hole	Amphenol Number	Fig.
Straight Jack-Jack	P17	D1	DC-18GHz Max. VSWR 1.14 Captive Contact	—	<b>901-9217</b>	1
	P22				<b>901-9217-SF</b>	
Bulkhead Jack-Jack Front or Rear Mount	P19	D1	DC-18GHz Max. VSWR 1.14 Captive Contact	W	<b>901-9209-A</b>	2
	P23				<b>901-9209-ASF</b>	
Straight Plug-Plug	P18	D1	DC-18GHz Max. VSWR 1.14 Captive Contact	—	<b>901-9218</b>	3
	P22				<b>901-9218-SF</b>	
Straight Plug-Jack	P17	D1	DC-18GHz Max. VSWR 1.14 Captive Contact	—	<b>901-9216</b>	4
	P22				<b>901-9216-SF</b>	
Angle Plug-Jack	P17	D1	DC-18GHz Max. VSWR 1.23 Captive Contact	—	<b>901-9219-A</b>	5
	P23				<b>901-9219-ASF</b>	
Angle Plug-Plug	P17	D1	DC-18GHz Max. VSWR 1.23 Captive Contact, BeCu Body & Nuts	—	<b>901-274</b>	6

# SMA phase adjustable connectors

## SPECIFICATIONS\*

### Simple Mechanical Phase Adjustment

For phased array radar, test equipment, ILS landing systems and other instrumentation using phase matching techniques, these SMA connectors for semi-rigid coaxial cables and the SMA plug-to-jack adapter offer a precise and simple means of phase adjustment for microwave devices.

The connectors incorporate a threaded interconnection of variable length. Turning an adjustment nut creates incremental changes in connector length and hence phase angle. Once established, the proper phase setting for each cable is maintained by connector locking-nuts. For example, one revolution of the adjustment nut results in a phase angle change of  $5.7^\circ$  for a 9 GHz signal  $[0.636 \times 9]^\circ$

These connectors provide ease of mechanical screw adjustments, compared to the delays and expense of laborious cable-trimming, and they also allow phase matching to be performed at final production stages.

### ELECTRICAL

Impedance	50 ohms
Frequency Range	DC - 18 GHz
Insertion Loss	dB max. For Adapter 901-508 $= .1 \sqrt{f(\text{GHz})}$ For Connectors 901-509, 901-510 $= .08 \sqrt{f(\text{GHz})}$
VSWR	See Chart for Adapter 901-508 and for Connectors 901-509, 901-510
Phase Angle Adjustment Range in Degrees	For Adapter 901-508 and for Connectors 901-509, 901-510 $= 0^\circ \text{ to } [10 \times f(\text{GHz})]^\circ \text{ max}$
Phase Angle Change per revolution of Adjustment Nut (in Degrees)	For adapter 901-508 and for Connectors 901-509, 901-510 $= [0.636 \times f(\text{GHz})]^\circ$
Voltage Rating	500 VRMS peak

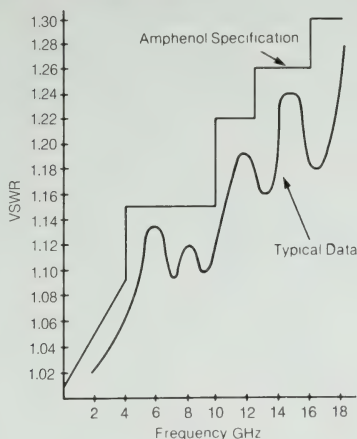
### MECHANICAL

Mating	Mating face dimensions compatible with the mating requirements of MIL-C-39012/55 (Type SMA)
Connector Durability	(SMA interface) 500 cycles of mating and unmating without deterioration

### MATERIAL

Center Contact	Beryllium Copper, Gold plated
Connector Body	Brass or Beryllium Copper, Gold Plated
Adjusting Nut and Locking Nuts	Brass with ASTRO plate finish
Connector Coupling Nut	Stainless Steel, Passivated
Insulation	TFE

### SWEEPED VSWR DATA



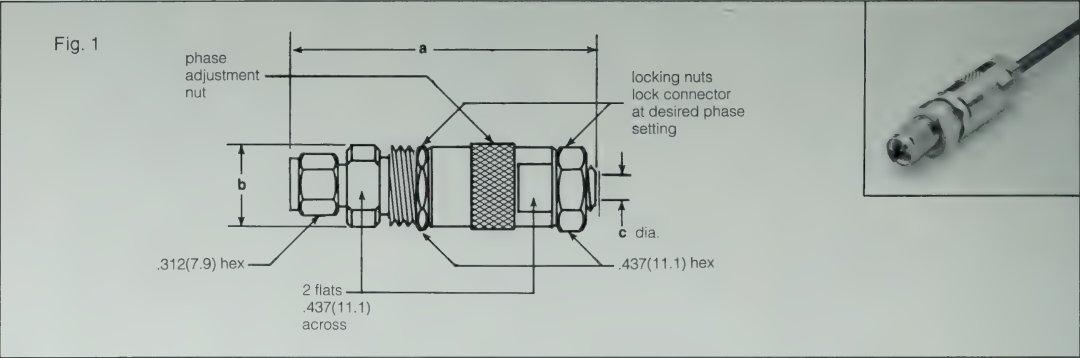
### ENVIRONMENTAL

Shock	MIL-STD-202, Method 213, Test Cond. I
Vibration	MIL-STD-202, Method 204, Test Cond. D
Corrosion	MIL-STD-202, Method 101, Test Cond. B
Temperature range	-65°C to +125°C

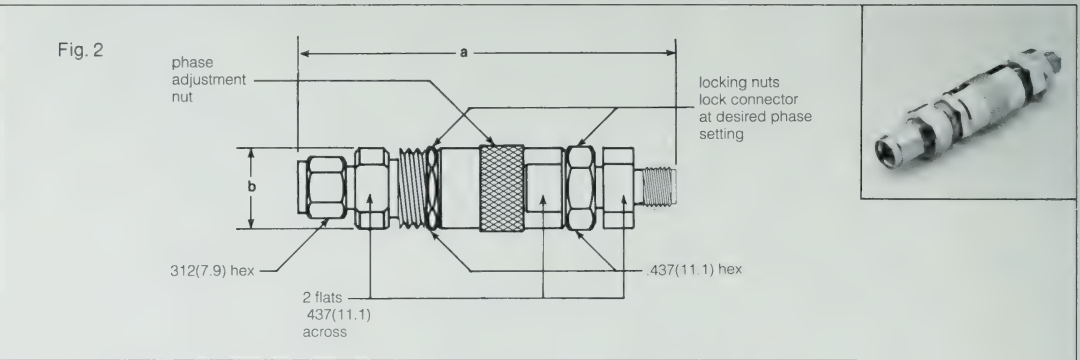
\* These characteristics are typical and may not apply to all connectors.

# SMA phase adjustable connectors

## PLUG - SOLDER TO COLLET TERMINATION FOR SEMI-RIGID CABLE



## ADAPTER - PLUG TO JACK



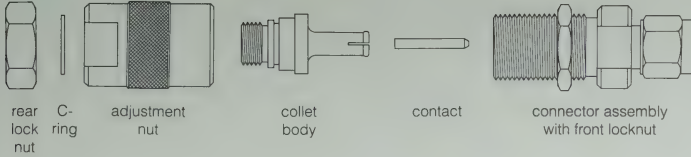
Description	Semi-Rigid Cable Size	Cable Termination	Dimensions, inches (millimeters)				CAI	Plt.	Ins.	Amphenol Number	Fig
			a		b	c					
			(Fully Extended)	(Fully closed)							
Plug	.085"(2.2) dia.	Solder	2.03(51.6)	1.68(42.7)	.500(12.7)	.088(2.2)	C24	P34	D1	901-510	1
Plug	.141"(3.6) dia.	Solder	2.03(51.6)	1.68(42.7)	.500(12.7)	.144(3.7)	C24	P34	D1	901-509	1
Adapter	—	—	2.50(63.5)	2.15(54.6)	.500(12.7)	—	—	P34	D1	901-508	2



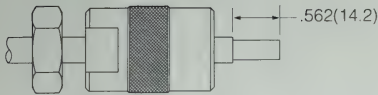
# SMA phase adjustable connector assembly instructions - C24

## SOLDER TO COLLET METHOD FOR SEMI-RIGID CABLE

SMA Plugs 901-509, 901-510

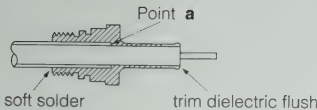


### Step 1



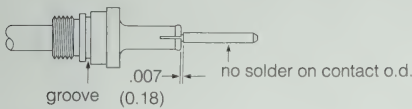
**Step 1** Strip cable jacket to dimensions shown. To avoid cutting into dielectric, score cable jacket and flex slightly to break entirely through jacket. Slide rear locknut and adjustment nut onto cable.

### Step 2



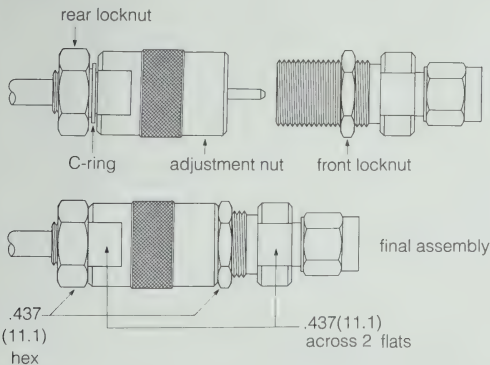
**Step 2** Insert cable into collet body and apply axial pressure to cable to assure good metal contact at Point **a**. Solder cable jacket to collet body with 60/40 solder. Trim dielectric flush with times of collet body. **Do not nick cable center conductor.**

### Step 3



**Step 3** Solder contact to cable center conductor with 60/40 solder and **maintain the .007 dimension shown between contact and tines. Do not permit solder on contact o.d.**

### Step 4

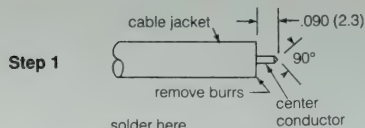
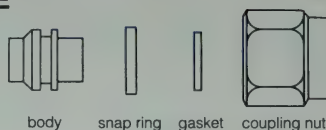


**Step 4** Slide adjustment nut over collet body. Install C-ring into groove on collet body. Thread rear locknut loosely into place. Thread this assembly onto connector assembly. Make phase angle adjustment by turning adjustment nut: one revolution of nut =  $[0.636 \times f(\text{GHz})]^\circ$ . When desired phase angle is achieved, hold adjustment nut in place and turn the front locknut down against it. Then tighten rear locknut and assembly is complete.

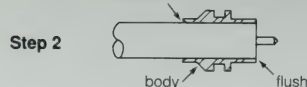
## SMA assembly instructions - C17, C18, C19

### SOLDER TO BODY TYPES FOR SEMI-RIGID CABLE

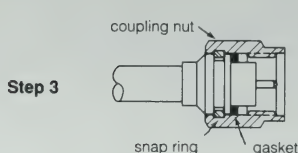
**C17-SMA Plugs for .141"(3.6mm) Semi-Rigid/RG-402 (M17/130)**  
901-9201-1A; 901-9201-1ASF



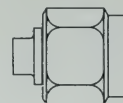
**Step 1** Clean cable end for .625" (16mm) min. length. Trim cable jacket and dielectric to dimensions shown. Do not nick center conductor. Remove burrs from cable jacket. File blunt end of center conductor to a 90° cone.



**Step 2** Assemble cable into connector body. Cable jacket and dielectric to be flush with end of body as shown. Solder cable to connector body. Avoid excessive heat which may distort dielectric.

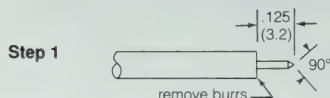


**Step 3** Assemble snap ring in groove on connector body. Assemble gasket in position as shown. Compress snap ring and assemble coupling nut as shown.

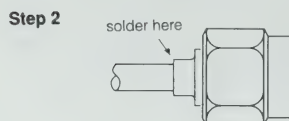


connector as shipped  
(contains preassembled center contact)

**C18-SMA Plugs 901-9723 for .086"(2.2mm) Semi-Rigid/RG-405 (M17/133)**  
901-9808 for .141"(3.6mm) Semi-rigid/RG-402 (M17-130)



**Step 1** Clean cable end for .625" (16mm) min. length. Trim cable jacket and dielectric to dimension shown. Do not nick center conductor. Remove burrs from cable jacket. File blunt end of center conductor to a 90° cone.

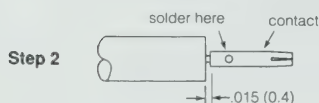
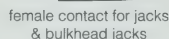
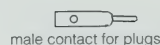
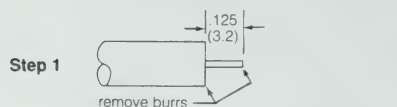


**Step 2** Assemble cable into connector body. Make sure center conductor is straight. Use care in pushing center conductor into spring contact. Make sure jacket bottoms in connector. Maintain end pressure while soldering. Avoid excessive heat which may distort dielectric.

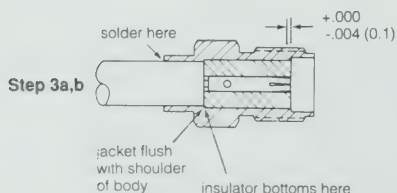
### C19-SMA Plugs, Jacks, Bulkhead Jacks

901-9201-2A Plug for .086" S/R; 901-9202-1A Jack for .141" S/R

901-9210-1 Bulkhead Jack for .141" S/R; 901-9210-2 Bulkhead Jack for .086" S/R



**Step 1** Clean cable end for .625" (16mm) min. length. Trim cable jacket and dielectric to dimension shown. Do not nick center conductor. Remove burrs from jacket and center conductor.



**Step 2** Solder contact to center conductor. Use .015" (.4mm) shim to accurately maintain space between jacket, dielectric and contact. Remove all excess solder.

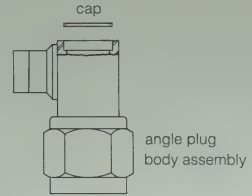
**Step 3a** Assemble cable and contact into connector body. Cable jacket and dielectric to be flush with shoulder of body as shown. Solder cable to connector body. Avoid excessive heat which may distort dielectric.

**Step 3b** Press fit insulator into connector body. Bottom insulator in connector body as shown.

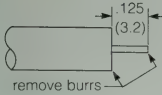
# SMA assembly instructions - C20 & C21

## SOLDER TO BODY SMA ANGLE PLUGS - C20

901-9221-1A, -1ASF for .141" S/R; 901-9221-2A, -2ASF for .086" S/R



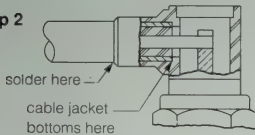
### Step 1



### Step 1

Clean cable end for .625" (16mm) min. length. Trim cable jacket and dielectric to dimension shown. Do not nick center conductor. Remove burrs from jacket and center conductor.

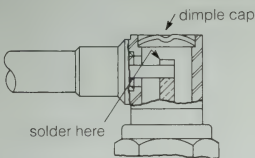
### Step 2



### Step 2

Assemble cable into connector body. Bottom cable in connector body as shown. Solder cable to connector body as shown.

### Step 3



### Step 3

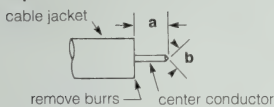
Solder center conductor to contact as shown. Remove excess solder. Assemble cap and lightly punch center of cap for retention in body.

## COMPRESSION CRIMP TYPE SMA PLUGS FOR SEMI-RIGID CABLE - C21

Amphenol Number	Cable	Stripping Dimensions, inches (mm)		Use Crimp Tool 227-1451 (M22520/36-101) with				
		a	b	Positioning Dies		Locator Pin		Selector No.‡
				Amphenol No.	M22520/No.	Amphenol No.	M22520/No.	
901-606, 901-606-11, -51 without contact & insulator	.141" (3.6mm) S/R	.095 (2.4)	63°/68° with .010 (0.25) dia. flat on tip	227-1451-2	36-103	227-1451-3	36-104	6
901-613, 901-613-11, -51 with pre-assembled contact & ins.	.086" (2.2mm) S/R	.070 (1.8)	60°/90°	227-1451-1	36-102	227-1451-3	36-104	2
901-614, 901-614-11, -51 with pre-assembled contact & ins.	.141" (3.6mm) S/R	.085 (2.2)	60°/90°	227-1451-2	36-103	227-1451-3	36-104	2

‡ Selector Setting Number for Tool 227-1451

### Step 1



### Step 1

Trim cable to dimension **a** per table above. Do not nick center conductor. Remove burrs from cable jacket. File blunt end of center conductor to a cone within degree tolerances of dimension **b** per table above.

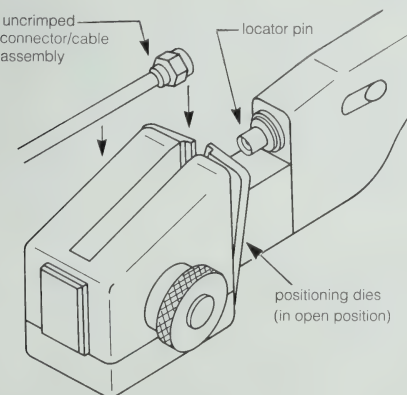
### Step 2



### Step 2

Insert trimmed cable into back end of connector body. Ensure that cable bottoms in counterbore.

### Step 3



### Step 3

Using crimp tool 227-1451 (M22520/36-101) with positioning dies, locator pin, and selector setting number per table above, crimp connector to cable: (1) place connector in the space between the locator pin and the positioning dies as shown; (2) carefully close the positioning dies around the cable; (3) squeeze tool handle closed until ratchet releases; (4) open the tool and remove the crimped connector.

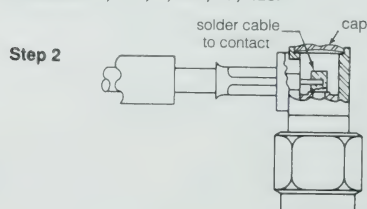
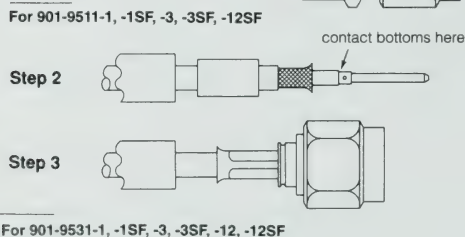
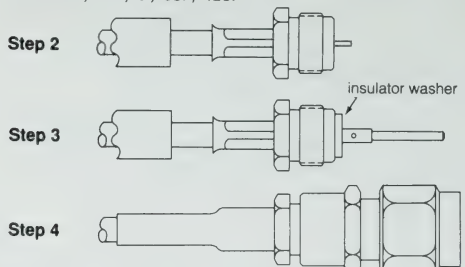
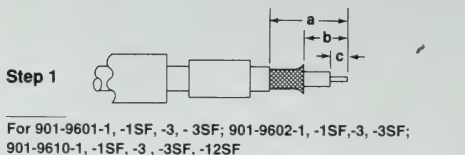
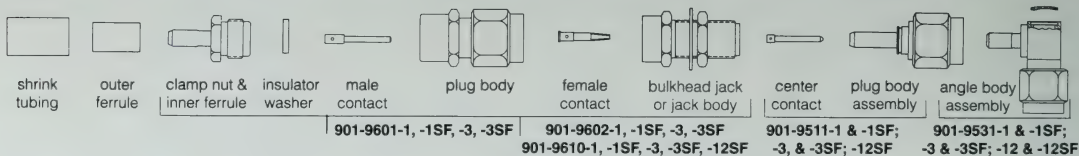
⚠ In the event that cable was not trimmed accurately for phase matching or if for any reason the connector must be re-installed on the cable, simply remove this crimp sleeve with removal tool 227-901-2512, discard the used crimp sleeve, and re-install the connector with a new crimp sleeve. For order information, see page 90



# SMA assembly instructions - C22

## BRAID CRIMP-SOLDER CENTER CONTACT TYPES FOR FLEXIBLE CABLE

Amphenol Number	Connector Type	Cable RG-U	Strip Dimensions, inches (mm)			Hex Cavity for Outer Ferrule	Die Set for Tool 227-944
			a	b	c		
901-9511-1, -1SF	Plug	55,58,141,142,223,400	.300(7.6)	.090(2.3)	.090(2.3)	.213(5.4)	227-1221-11 Cavity A
901-9511-3, -3SF	Plug	174,179,187,188,316	.300(7.6)	.090(2.3)	.090(2.3)	.128(3.3)	227-1221-03 Cavity A
901-9511-12SF	Plug	Double Braid 316	.300(7.6)	.090(2.3)	.090(2.3)	.151(3.8)	227-1221-37 Cavity B
901-9531-1, -1SF	Angle Plug	55,58,141,142,223,400	.475(12.1)	.235(6.0)	.120(3.0)	.213(5.4)	227-1221-11 Cavity A
901-9531-3, -3SF	Angle Plug	174,179,187,188,316	.475(12.1)	.235(6.0)	.090(2.3)	.128(3.3)	227-1221-03 Cavity A
901-9531-12, -12SF	Angle Plug	Double Braid 316	.475(12.1)	.235(6.0)	.090(2.3)	.151(3.8)	227-1221-37 Cavity B
901-9601-1, -1SF	Plug	55,58,141,142,223,400	.620(15.7)	.350(8.9)	.090(2.3)	.213(5.4)	227-1221-11 Cavity A
901-9601-3, -3SF	Plug	174,179,187,188,316	.620(15.7)	.350(8.9)	.120(3.0)	.128(3.3)	227-1221-03 Cavity A
901-9602-1, -1SF	Jack	55,58,141,142,223,400	.610(15.5)	.340(8.6)	.110(2.8)	.213(5.4)	227-1221-11 Cavity A
901-9602-3, -3SF	Jack	174,179,187,188,316	.610(15.5)	.340(8.6)	.110(2.8)	.128(3.3)	227-1221-03 Cavity A
901-9610-1, -1SF	Bulkhead Jack	55,58,141,142,223,400	.610(15.5)	.340(8.6)	.110(2.8)	.213(5.4)	227-1221-11 Cavity A
901-9610-3, -3SF	Bulkhead Jack	174,179,187,188,316	.610(15.5)	.340(8.6)	.110(2.8)	.128(3.3)	227-1221-03 Cavity A
901-9610-12SF	Bulkhead Jack	Double Braid 316	.610(15.5)	.340(8.6)	.110(2.8)	.151(3.8)	227-1221-37 Cavity B



**Step 1** Slide heat shrink tubing and outer ferrule onto cable. Strip cable jacket, braid and dielectric to dimensions shown in table above. All cuts are to be sharp and square.

**Important:** Do not nick braid, dielectric or center conductor when cutting. Tin center conductor. Avoid excessive heat to prevent swelling of cable dielectric. Flare end of cable braid slightly as shown to facilitate insertion of inner ferrule.

**Important:** Do not comb out braid.

**Step 2** Slide clamp nut over inner ferrule, and slide inner ferrule under braid until cable dielectric is flush with front of inner ferrule. Slide outer ferrule in place and crimp with die set shown in table above.

**Step 3** Place insulator washer on cable center conductor and bottom against inner ferrule body as shown. Contact must butt firmly against insulator washer while soldering.

**Step 4** Screw ferrule-contact assembly into body and tighten to 20-25 lbf.-in. torque. Slide heat shrink tubing over ferrule, up against clamp nut and shrink by applying heat.

**Step 2** Solder center contact to cable center conductor as shown. Remove excess solder. **Note:** Contact must bottom against cable dielectric.

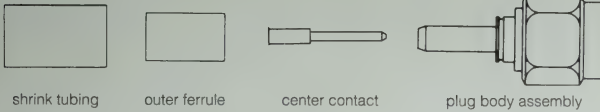
**Step 3** Install coupling nut and body assembly as shown. Place ferrule against body and crimp with die set shown in table above. Place heat shrink tubing over crimp ferrule, against body, and apply heat.

**Step 2** Angle Plugs: Place cable dielectric into body and press ferrule against body as shown. Crimp with die set shown in table above. Solder cable center conductor into contact as shown. Insert cap as shown and dimple or lightly punch center of cap for retention in body. Place heat shrink tubing over crimp ferrule, against body, and apply heat.

# SMA assembly instructions - C23

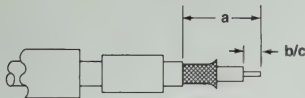
## CRIMP-CRIMP TYPES FOR FLEXIBLE CABLE

Amphenol Number	Connector Type	Cable RG/U	Strip Dimensions, inches (mm)			Contact Data Positioner for Tool 227-1454	Outer Ferrule Data	
			a	b	c		Hex Cavity for Outer Ferrule	Die Set for Tool 227-944
901-9511-1SFC	SMA Plug	55,58,141,142,223,400	.300(7.6)	.090(2.3)	.090(2.3)	227-1451-1	.213(5.4)	227-1221-11 Cavity A
901-9511-3SFC	SMA Plug	174,179,187,188,316	.300(7.6)	.090(2.3)	.090(2.3)	227-1451-1	.128(3.3)	227-1221-03 Cavity A
901-9511-12SFC	SMA Plug	Double Braid 316	.300(7.6)	.090(2.3)	.090(2.3)	227-1451-1	.151(3.8)	227-1221-37 Cavity B



For SMA Plugs 901-9511-15SFC, -3SFC, -12SFC

### Step 1

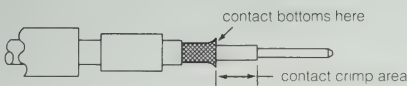


**Step 1** Slide heat shrink tubing and outer ferrule onto cable. Strip cable jacket, braid and dielectric to dimensions shown in table above. All cuts are to be sharp and square.

**Important:** Do not nick braid, dielectric or center conductor when cutting. Flare end of cable braid slightly as shown to facilitate insertion of inner ferrule.

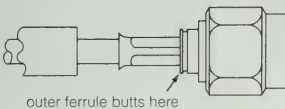
**Important:** Do not comb out braid.

### Step 2

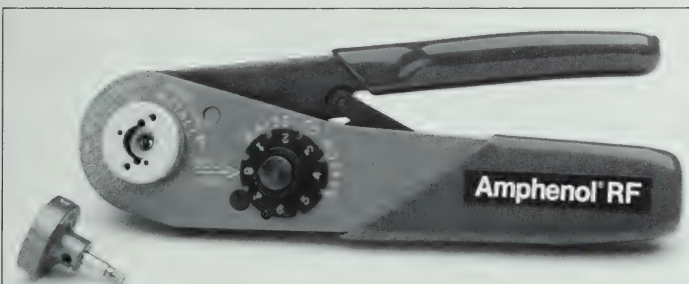


**Step 2** Crimp center contact to cable center conductor using mini-8-indent Tool 227-1454 (M22520/2-01) and Positioner shown in Table above. **Note:** Contact must bottom against cable dielectric.

### Step 3



**Step 3** Install inner ferrule of body assembly over cable dielectric and under braid. Place outer ferrule against body and crimp with Tool 227-944 (M22520/5-01) and Die Set shown in Table above. Place heat shrink tubing over crimp ferrule, against body, and apply heat.



Mini 8-indent Tool for Crimping SMA Center Contacts

Amphenol No.	Military No.	Description
227-1454	M22520/2-01	Tool Frame
227-1454-1	—	Positioner for SMA Plugs 901-9511-1SFC, -3SFC, -12SFC

## SMB snap-on coaxial connectors

Amphenol® SMB connectors meet or exceed the requirements of MIL-C-39012 series SMB. These subminiature units feature snap-on mating and broadband performance

with low reflection DC-4 GHz (usable to 10 GHz). Connector designs shown include 50Ω, 75Ω impedance types. See specifications, page 22.

<div>Fig. 1</div> <div></div> <div></div>			<div>Fig. 2</div> <div></div> <div></div>		
50Ω SMB Plugs - Braid Crimp/Solder Female Contact			50Ω SMB Angle Plugs - Braid Crimp/Solder Female Contact		
RG-174, 179, 187, 188, 316	903-285P-51S	Gold Plated	RG-174, 179, 187, 188, 316	903-289P-51A	Gold Plated
	903-370P-51S	Nickel Plated		903-367P-51A	Nickel Plated
RG-178, 196	903-287P-51S	Gold Plated	RG-178, 196	903-291P-51A	Gold Plated
	903-371P-51S	Nickel Plated		903-368P-51A	Nickel Plated
			Dbl. Br. RG-316	903-369P-51A	Nickel Plated

<div>Fig. 3</div> <div></div> <div></div>			<div>Fig. 4</div> <div></div> <div></div>			<div>Fig. 5</div> <div></div> <div></div>		
50Ω SMB Bulkhead Jacks - Braid Crimp/Solder Male Contact			50Ω SMB Angle Bulkhead Jacks - Braid Crimp/Solder Male Contact			50Ω SMB Low Profile Angle Plugs - Braid Crimp/Solder Female Contact		
RG-174, 179, 187, 188, 316	903-297J-51S	Gold Plated	RG-174, 179, 187, 188, 316	903-422J-51A	Gold Plated	RG-174, 179, 187, 188, 316	903-429P-51A	Nickel Plt.
	Dbl Br. RG-316	903-411J-51S1		Gold Plated				

### 50Ω SMB PLUGS, ANGLE PLUGS, & BULKHEAD JACKS

Cable RG-/U	Connector Description	Cable Attachment		c Dia. In. (mm)	MTG Hole	CAI	Plt.	Ins.	Notes	Amphenol Number	Fig.
		Outer	Inner								
RG-174, 179, 187, 188, 316	Plug	Crimp	Solder	.128(3.3)±	—	C25	P19 P26	D1	Gold Plated Body Nickel Plated Body	903-285P-51S 903-370P-51S	1
	Angle Plug	Crimp	Solder	.128(3.3)±	—	C26	P19 P26	D1	Gold Plated Body Nickel Plated Body	903-289P-51A 903-367P-51A	2
	Low Profile Angle Plug	Crimp	Solder	.128(3.3)±	—	C26	P54	D1	Nickel Plated Body ★	903-429P-51A	5
	Bulkhead Jack	Crimp	Solder	.128(3.3)±	P	C25	P19	D1	Gold Plated Body	903-297J-51S	3
	Angle Bulkhead Jack	Crimp	Solder	.128(3.3)±	P	C26	P19	D1	Gold Plated Body	903-422J-51A	4
RG-178, 196	Plug	Crimp	Solder	.100(2.5)±	—	C25	P19 P26	D1	Gold Plated Body Nickel Plated Body	903-287P-51S 903-371P-51S	1
	Angle Plug	Crimp	Solder	.100(2.5)±	—	C26	P19 P26	D1	Gold Plated Body Nickel Plated Body	903-291P-51A 903-368P-51A	2
	Bulkhead Jack	Crimp	Solder	.142(3.6)±	P	C25	P40 P19	D1	Gold Plated Body	903-369P-51A	3
Dbl. Braid RG-316	Bulkhead Jack	Crimp	Solder	.142(3.6)±	P	C25	P19	D1	Gold Plated Body	903-411J-51S1	3

± i.d. of outer crimp ferrule

★ Gold plated outer contact



# SMB bulkhead and printed circuit receptacles

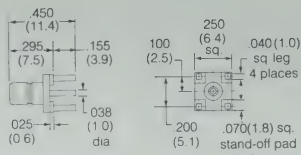
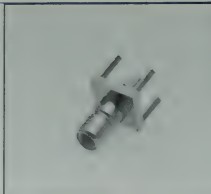
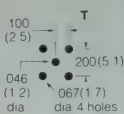
<p><b>Fig. 1</b></p> <p>SMB Bulkhead Receptacle-Rear Mount Male Contact/Solder Cup Terminal <b>903-305J-51R</b> Gold Plated</p>	<p><b>Fig. 2</b></p> <p>SMB Bulkhead Receptacle-Front Mount Male Contact/Solder Cup Terminal <b>903-406J-51R*</b> Gold Plated</p>	<p><b>Fig. 3</b></p> <p>SMB Bulkhead Receptacle-Front Mount Male Contact/Post Terminal <b>903-402J-51R</b> Gold Plated</p>
<p><b>Fig. 4</b></p> <p>SMB Recessed Bulkhead Jack Receptacle Front Mount/Male Contact/Solder Cup Terminal <b>903-407J-51R</b> Gold Plated</p>	<p><b>Fig. 5</b></p> <p>SMB Angle Bulkhead Jack Receptacle Front Mount/Male Contact/Solder Cup Terminal <b>903-416J-51R*</b> Gold Plated</p>	<p><b>Fig. 6</b></p> <p>SMB Low Profile Connectors Plug Receptacle <b>903-427P-51P</b> Gold Plt. Angle Jack <b>903-428J-51P</b> Gold Plt.</p>

## 50Ω SMB BULKHEAD JACK AND PRINTED CIRCUIT RECEPTACLES • captive male contacts

Connector Description	Terminal Type	MTG Hole	Plt.	Ins	Construction Notes	Amphenol Number	Fig.
Bulkhead Jack Receptacle, Rear Mount	Solder Cup	P	P17	D1	Gold Plated Body	<b>903-305J-51R</b>	1
Bulkhead Jack Receptacle, Front Mount	Solder Cup	P	P19	D1	Gold Plated Body	<b>903-406J-51R*</b>	2
Bulkhead Jack Receptacle, Front Mount	Blunt Post	P	P17	D1	Gold Plated Body	<b>903-402J-51R</b>	3
Recessed Bulkhead Jack Receptacle, Front Mount	Solder Cup	X	P19	D1	Gold Plated Body	<b>903-407J-51R</b>	4
Angle Bulkhead Jack Receptacle, Front Mount	Solder Cup	P	P19	D1	Gold Plated Body	<b>903-416J-51R*</b>	5
PC Low Profile Plug Receptacle	Blunt Post	T	P19	D1	Gold Plated Body	<b>903-427P-51P</b>	6
PC Low Profile Angle Jack Receptacle	Blunt Post	T	P17	D1	Gold Plated Body	<b>903-428J-51P</b>	6

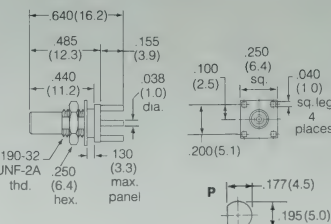
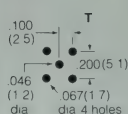
## SMB printed circuit receptacles

Fig. 1



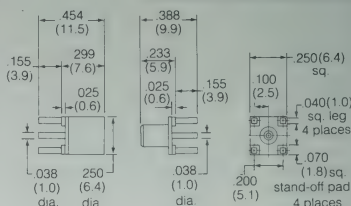
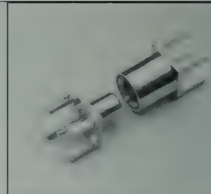
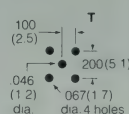
SMB PC Receptacle Male Contact  
Post Terminal/Four Legs  
**903-415J-51P** Gold Plated  
**903-496J-51S** Nickel Plated Body & Legs

Fig. 2



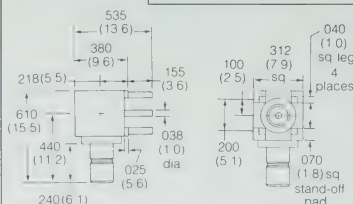
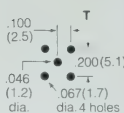
SMB PC Bulkhead Jack Receptacle  
Male Contact/Post Terminal/Four Legs  
**903-375J-53P** Gold Plated

Fig. 3



SMB PC Slide-on Board-to-Board  
Interconnect for .360" (9mm) Bd. Spacing  
Plug: **903-410P-53P** Gold Plated  
Jack: **903-409J-53P** Gold Plated

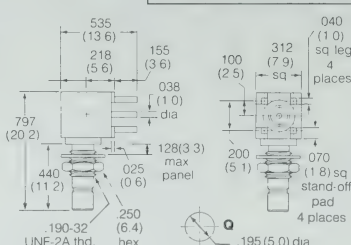
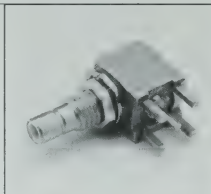
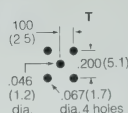
Fig. 4



SMB PC Angle Jack Receptacle  
Male Contact/Four Legs/Leak Tight  
**903-373J-51A**

Tin Lead Plated Cube Body & Legs,  
Gold Plated Interface & Post Terminal

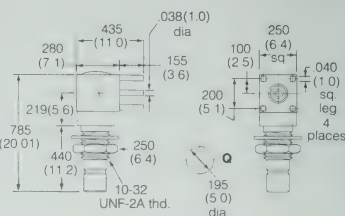
Fig. 5



SMB PC Angle Bulkhead Receptacle  
Male Contact/Four Legs/Leak Tight  
**903-413J-51A**

Tin Lead Plated Cube Body & Legs,  
Gold Plated Interface & Post Terminal

Fig. 6



SMB PC Angle Bulkhead Receptacle  
Male Contact/Four Legs/No Stand-off Pads  
**903-376J-51A**

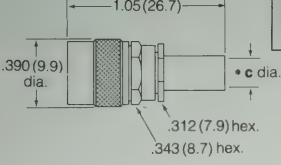
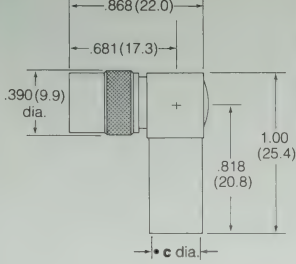
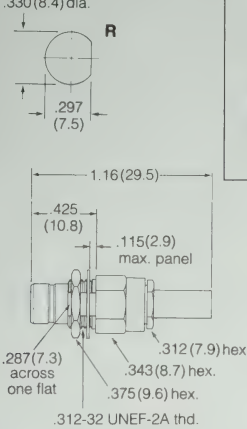
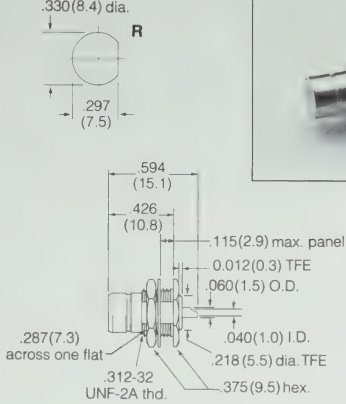
Tin Lead Plated Cube Body & Legs,  
Gold Plated Interface & Post Terminal

## 50Ω SMB PRINTED CIRCUIT RECEPTACLES

Connector Description	Terminal Type	MTG Hole	Pit.	Ins	Construction Notes	Amphenol Number	Fig.
PC Jack Receptacle/Four Legs	Blunt Post	T	P19	D1	Gold Plated Body	<b>903-415J-51P</b>	1
			P32		Nickel Plated Body	<b>903-496J-51S</b>	
PC Bulkhead Jack Receptacle/Four Legs	Blunt Post	T	P17	D1	Gold Plated Body/No Stand-off Pads	<b>903-375J-53P</b>	2
PC Slide-on Board-to-Board Interconnect for .360" (9mm) Bd. Spacing/Four Legs	Blunt Post	T	P17	D1	Plug/Gold Plated	<b>903-410P-53P</b>	3
					Jack/Gold Plated	<b>903-409J-53P</b>	
PC Angle Jack Receptacle Four Legs/Leak Tight	Blunt Post	T	P27	D1	Tin Lead Plt. Cube Body & Legs Gold Plt. Interface & Terminal	<b>903-373J-51A</b>	4
PC Angle Bulkhead Jack Receptacle, Four Legs/Leak Tight	Blunt Post	T	P27	D1	Tin Lead Plt. Cube Body & Legs Gold Plt. Interface & Terminal	<b>903-413J-51A</b>	5
PC Angle Bulkhead Jack Receptacle, Four Legs/No Stand-off Pads	Blunt Post	T	P27	D1	Tin Lead Plt. Cube Body & Legs Gold Plt. Interface & Terminal	<b>903-376J-51A</b>	6

† d. of outer crimp ferrule.

## 75Ω SMB coaxial connectors

<b>Fig. 1</b>  75Ω SMB Plug - Braid Crimp/Solder Female Contact			<b>Fig. 2</b>  75Ω SMB Angle Plug - Braid Crimp/Solder Female Contact		
RG-180, 195	<b>903-152P-71S</b>	Gold Plated Body, Nickel Plt. Cpl. Ring	Amphenol 621-4460-75	<b>903-495P-71A</b>	Gold Plated Body, Nickel Plt. Cpl. Ring
<b>Fig. 3</b>  75Ω SMB Bulkhead Jack - Braid Crimp/Solder Male Contact			<b>Fig. 4</b>  75Ω SMB Bulkhead Receptacle/Rear Mount Male Contact/Solder Cup Terminal		
RG-179	<b>903-108J-71S</b>	Gold Plated	<b>903-382J-71R</b> Gold Plated		

### 75Ω SMB PLUGS, ANGLE PLUGS, BULKHEAD JACKS & RECEPTACLES

Cable RG-/U	Connector Description	Cable Attachment		c Dia In. (mm)	MTG Hole	CAI	Plt.	Ins.	Notes	Amphenol Number	Fig.
		Outer	Inner								
RG-179	Bulkhead Jack	Crimp	Solder	.128(3.3)‡	R	C25	P17	D1	Gold Plated Body	<b>903-108J-71S</b>	3
RG-180, 195	Plug	Crimp	Solder	.180(4.6)‡	—	C25	P39	D1	Gold Plated Body Nickel Plt Coupling Ring	<b>903-152P-71S</b>	1
Amphenol 621-4460-75	Angle Plug	Crimp	Solder	.300(7.6)‡	—	C26	P39	D1	Gold Plated Body Nickel Plt Coupling Ring	<b>903-495P-71A</b>	2
—	Bulkhead Jack Receptacle Rear Mount/Solder Cup Term.	—	—	—	R	—	P19	D1	Gold Plated/ Captive Contact	<b>903-382J-71R</b>	4

‡ i.d. of outer crimp ferrule



# SMC screw-on coaxial connectors

Amphenol® SMC connectors meet or exceed the requirements of MIL-C-39012 series SMC. These subminiature units feature 10-32 threaded mating and broadband

performance with low reflection DC-10 GHz. The connectors shown in this catalog are 50Ω impedance, with voltage rating of 375V peak. See specifications, page 22.

Fig. 1

50Ω SMC Plugs - Braid Crimp/Solder Female Contact

Part Number	Material
RG-174, 179, 187, 188, 316	903-284P-52S Gold Plated
	903-284P-52S1 Nickel Plated

Fig. 2

50Ω SMC Angle Plugs - Braid Crimp/Solder Female Contact

Part Number	Material
RG-174, 179, 187, 188, 316	903-288P-52A Gold Plated
Dbl. Br. RG-316	903-362P-52A1 Nickel Plated

Fig. 3

SMC Bulkhead Receptacle-Front Mount Male Contact/Solder Cup Terminal

903-408J-52R☆ Gold Plated

Fig. 4

Jam Nut for SMB/SMC Receptacles

Part Number	Material
903-10408-1	Gold Plated
903-10408-2	Nickel Plated

Fig. 5

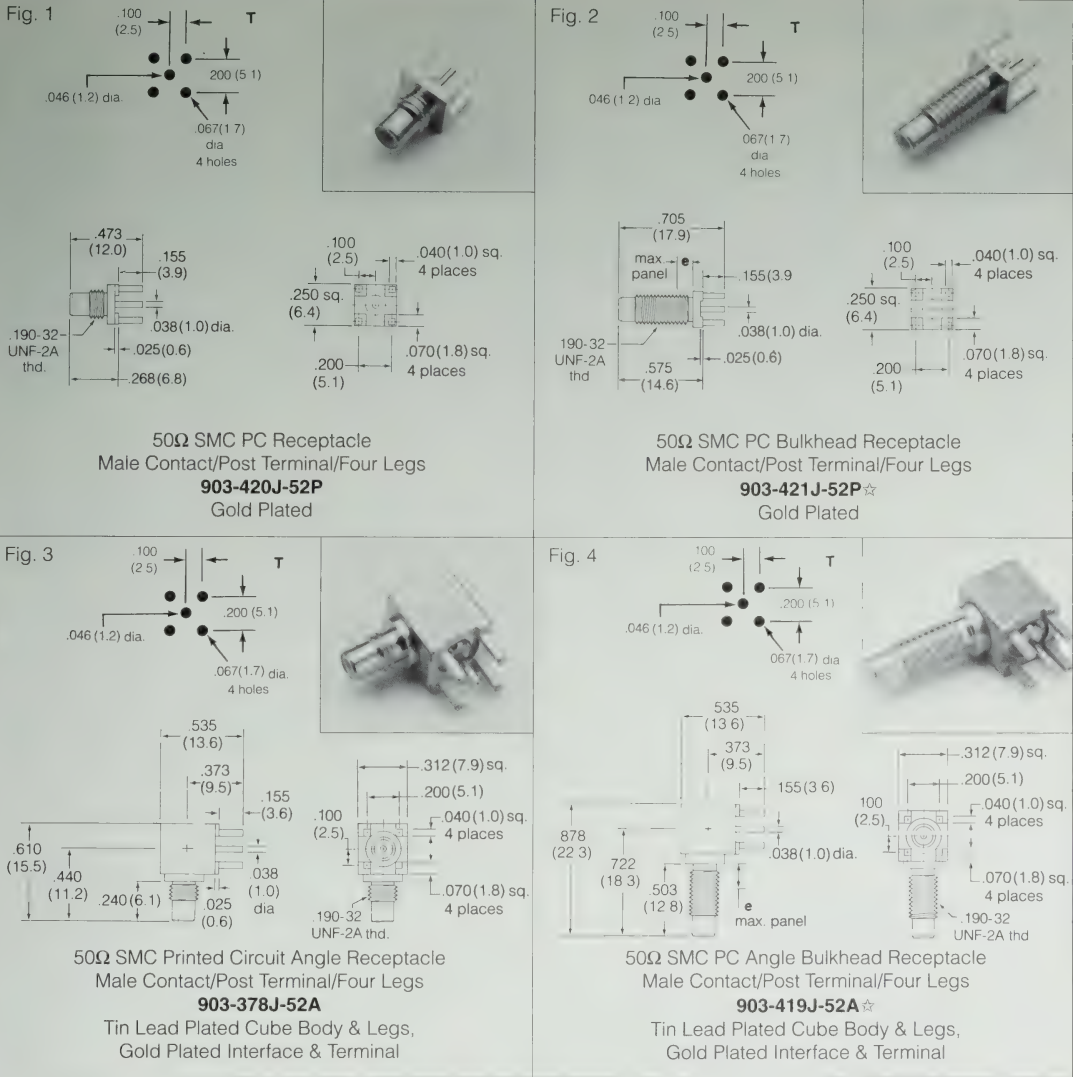
Lockwasher for SMB/SMC Receptacles

Part Number	Material
903-10409-1	Gold Plated
903-10409-2	Nickel Plated

## 50Ω SMC PLUGS, ANGLE PLUGS, BULKHEAD RECEPTACLES & ACCESSORIES

Cable RG-/U	Connector Description	Cable Attachment		c Dia. In. (mm)	MTG Hole	CAI	Plt.	Ins.	Notes	Amphenol Number	Fig.
		Outer	Inner								
RG-174, 179, 187, 188, 316	Plug	Crimp	Solder	.128(3.3)±	—	C25	P19 P32	D1	Gold Plated Body	903-284P-52S	1
	Angle Plug	Crimp	Solder	.128(3.3)±	—	C26	P19 P32	D1	Nickel Plated Body	903-284P-52S1	
Dbl. Br. 316	Angle Plug	Crimp	Solder	.100(2.5)±	—	C26	P32	D1	Gold Plated Body	903-288P-52A	2
	Angle Plug	Crimp	Solder	.100(2.5)±	—	C26	P32	D1	Nickel Plated Body	903-362P-52A1	2
—	Bulkhead Jack Receptacle Front Mount/Solder Cup Term.	—	—	—	P	—	P19	D1	Gold Plated/ Captive Contact	903-408J-52R☆	3
—	Jam Nut for SMB/SMC Receptacles	—	—	—	—	—	P42 P4	—	Gold Plated Nickel Plated	903-10408-1 903-10408-2	4
—	Lockwasher for SMB/SMC Receptacles	—	—	—	—	—	P42 P4	—	Gold Plated Nickel Plated	903-10409-1 903-10409-2	

# SMC printed circuit receptacles



## 50Ω SMC PRINTED CIRCUIT JACK RECEPTACLES • male contacts

Description	Terminal Type	Pit.	Ins.	Notes	Dim. e	MTG Hole	Amphenol Number	Fig.
Printed Circuit Straight Jack Receptacle	Blunt Post	P19	D1	—	—	T	<b>903-420J-52P</b>	1
Printed Circuit Straight Bulkhead Jack Receptacle	Blunt Post	P19	D1	—	.125(3.2)	T	<b>903-421J-52P</b> ☆	2
Printed Circuit Right Angle Jack Receptacle	Blunt Post	P27	D1	Leak Tight	—	T	<b>903-378J-52A</b>	3
Printed Circuit Right Angle Bulkhead Jack Receptacle	Blunt Post	P27	D1	Leak Tight	.125(3.2)	T	<b>903-419J-52A</b> ☆	4

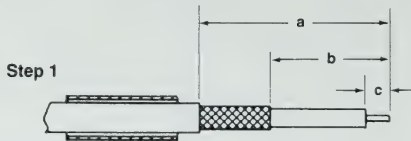
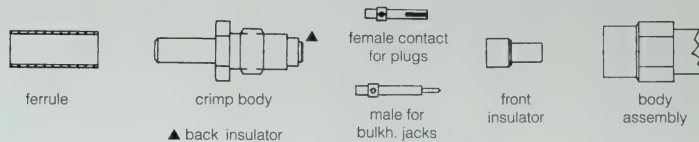
☆ Jam nut & lockwasher sold separately. See page 84 for order information.

# SMB/SMC assembly instructions - C25

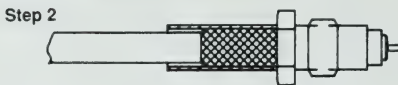
## CRIMP TYPE PLUGS & BULKHEAD JACKS

Amphenol Number	Connector Type	Cable RG-/U	Hex Cavity for Outer Ferrule	Die Set for Tool Handle 227-944	Stripping Dimensions, Inches (mm)		
					a	b	c
903-108J-71S	75Ω SMB Bulkhead Jack	179	.128(3.3)	227-1221-03 Cav. A	.673(17.1)	.433(11.0)	.093(2.4)
903-152P-71S	75Ω SMB Plug	180, 195	.178(4.5)	227-1221-09 Cav. A	.673(17.1)	.433(11.0)	.093(2.4)
903-284P-52S	50Ω SMC Plug	174, 179, 187, 188, 316	.128(3.3)	227-1221-03 Cav. A	.642(16.3)	.402(10.2)	.080(2.0)
903-284P-52S1							
903-285P-51S	50Ω SMB Plug	174, 179, 187, 188, 316	.128(3.3)	227-1221-03 Cav. A	.642(16.3)	.402(10.2)	.080(2.0)
903-287P-51S	50Ω SMB Plug	178, 196	.105(2.7)	227-1221-03 Cav. B	.642(16.3)	.402(10.2)	.080(2.0)
903-297J-51S	50Ω SMB Bulkhead Jack	174, 179, 187, 188, 316	.128(3.3)	227-1221-03 Cav. A	.710(18.0)	.470(11.9)	.100(2.5)
903-370P-51S	50Ω SMB Plug	174, 179, 187, 188, 316	.128(3.3)	227-1221-03 Cav. A	.642(16.3)	.402(10.2)	.080(2.0)
903-371P-51S	50Ω SMB Plug	178, 196	.105(2.7)	227-1221-03 Cav. B	.642(16.3)	.402(10.2)	.080(2.0)
903-411J-51S1	50Ω SMB Bulkhead Jack	Dbl. Braid RG-316	.151(3.8)	227-1221-37 Cav. B	.710(18.0)	.470(11.9)	.100(2.5)

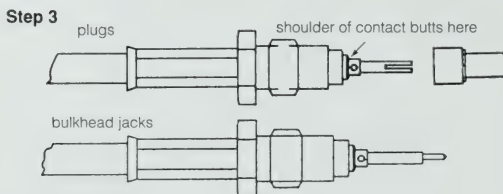
## SMB/SMC plugs & bulkhead jacks



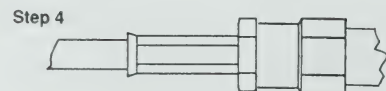
**Step 1** Slide ferrule over cable. Trim cable to dimensions shown in table above. Tin center conductor.



**Step 2** Insert cable into back end of crimp body assembly as shown. Dielectric will bottom in back insulator. Slide ferrule over braid and crimp using hex die shown in table above.



**Step 3** Assemble contact over center conductor so that shoulder of contact butts against back insulator. Heat contact to solder. For SMB/SMC plugs: After soldering contact, assemble front insulator over contact.



**Step 4** Insert assembly into body assembly and tighten to a torque of 90 to 100 ozf-in.

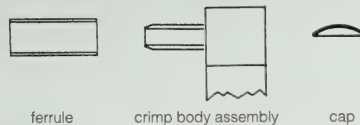
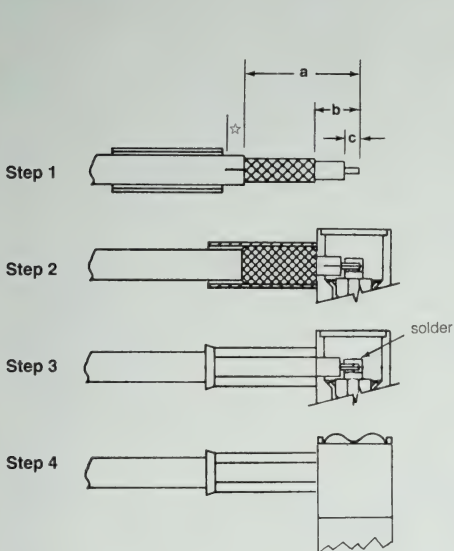


## SMB/SMC assembly instructions - C26

### CRIMP TYPE ANGLE PLUGS & ANGLE BULKHEAD JACKS

Amphenol Number	Connector Type	Cable RG-U	Hex Cavity for Outer Ferrule	Die Set for Tool Handle 227-944	Stripping Dimensions, Inches (mm)		
					a	b	c
903-288P-52A	50Ω SMC Angle Plug	174, 179, 187, 188, 316	.128(3.3)	227-1221-03 Cav. A	.390(9.9)	.150(3.8)	.050(1.3)
903-289P-51A	50Ω SMB Angle Plug	174, 179, 187, 188, 316	.128(3.3)	227-1221-03 Cav. A	.390(9.9)	.150(3.8)	.050(1.3)
903-291P-51A	50Ω SMB Angle Plug	178, 196	.105(2.7)	227-1221-03 Cav. B	.390(9.9)	.150(3.8)	.050(1.3)
903-362P-52A1	50Ω SMC Angle Plug	Dbl. Braid RG-316	.151(3.8)	227-1221-37 Cav. B	.390(9.9)	.150(3.8)	.050(1.3)
903-367P-51A	50Ω SMB Angle Plug	174, 179, 187, 188, 316	.128(3.3)	227-1221-03 Cav. A	.390(9.9)	.150(3.8)	.050(1.3)
903-367P-51A1	50Ω SMB Angle Plug	174, 179, 187, 188, 316	.128(3.3)	227-1221-03 Cav. A	.390(9.9)	.150(3.8)	.050(1.3)
903-368P-51A	50Ω SMB Angle Plug	178, 196	.105(2.7)	227-1221-03 Cav. B	.390(9.9)	.150(3.8)	.050(1.3)
903-369P-51A	50Ω SMB Angle Plug	Dbl. Braid RG-316	.151(3.8)	227-1221-37 Cav. B	.390(9.9)	.150(3.8)	.050(1.3)
903-422J-51A	50Ω SMB Ang Blkh Jack	174, 179, 187, 188, 316	.128(3.3)	227-1221-03 Cav. A	.390(9.9)	.150(3.8)	.050(1.3)
903-429P-51A	50Ω SMB Low Prof. Angl Plg	174, 179, 187, 188, 316	.128(3.3)	227-1221-03 Cav. A	.400(10.2)☆	.200(5.1)	.050(1.3)
903-495P-71A	75Ω SMB Angle Plug	Amphenol 621-4460-795	.324(8.2)	227-1221-32 Cav. A	.500(12.7)	.250(6.4)	.250(6.4)

### SMB/SMC angle plugs & angle bulkhead jacks



**Step 1** Slide ferrule over cable. Trim cable to dimensions shown in table above. Tin center conductor.

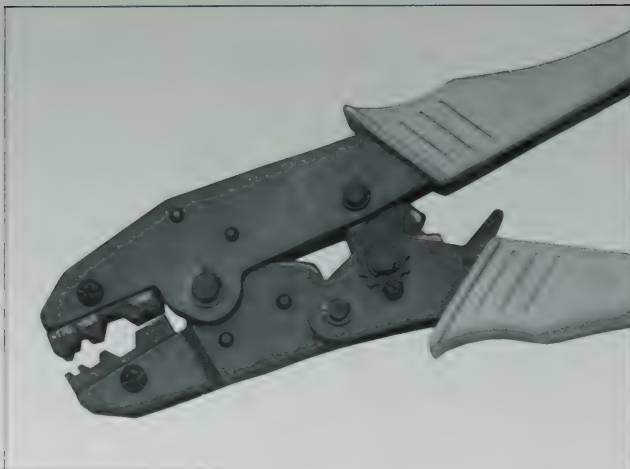
**Step 2** Insert cable into back end of crimp body assembly as shown. Center conductor will enter slot in contact. Slide ferrule over braid and crimp using hex die shown in table above.

**Step 3** Solder center conductor into contact.

**Step 4** Insert cap into body and dimple or lightly punch center of cap for retention in body.

☆ for P/N 903-429P-51A only, make 2 slits in jacket .062"(1.6mm) long, 180° apart.

## CTL Series Crimp Tools



Amphenol CTL Series commercial crimp tools are sold complete as a tool handle with die set included. They are similar in features and application to the TWINHEX 227-944 tool frame and die sets shown on the next page. Purchase of some or all of the four commercial tools shown below will allow the user to terminate most popular RG coaxial cables as well as Twinax cable for IBM system 3X/400 networks.

To order the tool required for your application, please refer to the Connector Assembly Instruction for your connector part number. The instruction sheet shows the correct CTL Series tool number for your part.

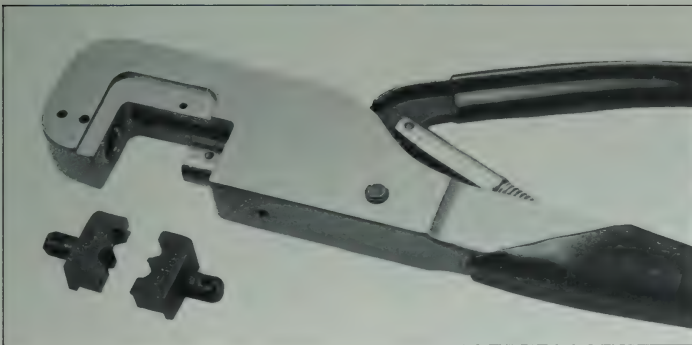
Cross Reference	
MIL-T-22520 Die Sets	227-No. Die Sets
/5-11, -13, -57 & -59	-1221-11, -13, -57 & -59
5-09	-1221-09 & -32
5-25 & -57	-1221-25 & -57
-	-1409
-	-1414

CTL Series Tool No.
CTL-1
CTL-2
CTL-3
CTL-1
CTL-4

### Tool Data

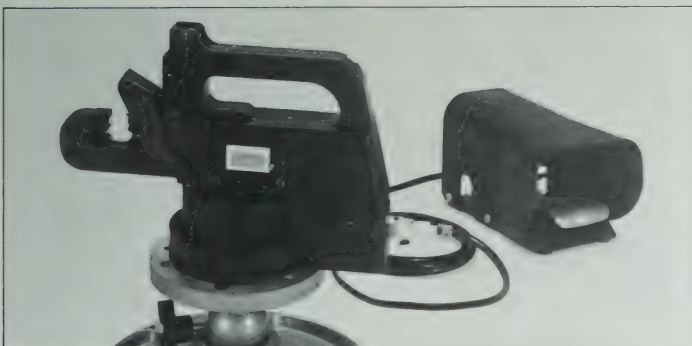
CTL Series Tool No.	Hex Sizes	Cable RG-/U	Connectors	Notes
CTL-1	.052 (1.3) .100 (2.5) .255 (6.5) .068 (1.7) .213 (5.4)	RG-55, 58, 141, 142, 223, 303, 400 RG-59, 62, 140, 210 Plenum 59, 62 Belden 9258, 9259, 9907, 89907		for BNC, TNC, Mini-UHF, and Type N 3-Piece Crimp Connectors
CTL-2	.176 (4.5) .324 (8.2) .368 (9.4)	RG-6 RG-174, 188, 316 RG-179, 187 Plenum 58 Belden 8281 and see notes		for BNC & TNC 3-Piece Crimp Connectors & for BNC 2-Piece RFX Crimp Plugs on RG-58, 59, 62 & Plenum 58, 59, 62
CTL-3	.100 (2.5) .429 (10.9) .213 (5.4)	RG-55, 58, 141, 142, 223, 303, 400 RG-8, 11, 149, 213, 214, 225, 393 Ethernet Cables		for Type N 3-Piece Crimp Connectors
CTL-4	.400 (10.2) .100 (2.5) .150 (3.8) .188 (4.8)	Belden 8227, 9207, 89207 IBM 7362211 Twinax Cable		for Crimp-Crimp Twinax Plug 82-5589-CC and for Center Contacts of Twinax Plugs 82-5589, 82-5589-RFX and 82-5589-CP

## TWINHEX Crimp Tool System



The Amphenol TWINHEX crimp tool system is used in Industrial/ Military Standard applications. It consists of a tool frame and a selection of die sets for use in assembling Amphenol RF connectors.

## Pneumatic Crimp Tool



The Amphenol pneumatic crimp tool 227-60 is designed for use in high volume RF connector/cable assembly applications. Bench mountable on a swivel base, this high speed crimp tool runs on common 85/100 psi airline and is actuated by a foot switch for hands-free operation.

## Die Sets for Crimp Tool 227-944 & for Pneumatic Crimp Tool 227-60

Hex Size† Cavity A (Outer)	Inches (mm) Cavity B (Inner)	Military Die Set Number	Amphenol Die Set Number
.255(6.5)	.049(1.2) sq	—	227-980-1
.178(4.5)	.049(1.2) sq	—	227-980-2
.324(8.2)	.052(1.3) sq	—	227-980-3
.178(4.5)	.052(1.3) sq	—	227-980-7
.128(3.2)	.105(2.7)	M22520/5-03	227-1221-03
.178(4.5)	.068(1.7)	M22520/5-09	227-1221-09
.213(5.4)	.068(1.7)	M22520/5-11	227-1221-11
.255(6.5)	.068(1.7)	M22520/5-13	227-1221-13
.263(6.7)	.068(1.7)	M22520/5-15	227-1221-15
.384(9.8)	—	M22520/5-23	227-1221-23
.429(10.9)	.100(2.5)	M22520/5-25	227-1221-25
.324(8.2)	.100(2.5)	M22520/5-29	227-1221-29
.324(8.2)	.068(1.7)	—	227-1221-32
.314(8.0)	.151(3.8)	M22520/5-37	227-1221-37
.213(5.4)	.100(2.5)	M22520/5-57	227-1221-57
.255(6.5)	.100(2.5)	M22520/5-59	227-1221-59
.240(6.1) dia	.044(1.1) sq	—	227-1402
.213(5.4)	.052(1.3) sq	—	227-1409
.429(10.9)	B/C = .075(1.9)	—	227-1414
.160(4.1)	.049(1.2) sq	—	227-1448

† Except as noted

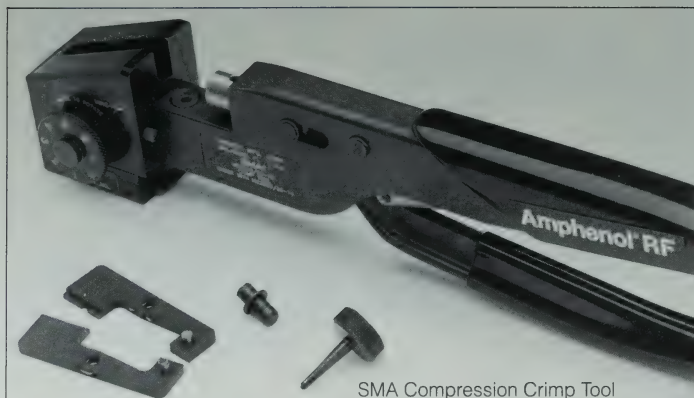
### Order Information

TWINHEX tool frame 227-944 (M22520/5-01) and pneumatic crimp tool 227-60 are sold without dies. To order the die set required for your application, please refer to the Connector Assembly Instruction for your connector part number, and there the correct die set number for your part is listed in the column headed Die Set for Tool 227-944 (& for 227-60).

Description	Military Number	Amphenol Number
Hand Tool Frame for use with Twinhex 227-1221-XX and other indicated Die Sets (Die Sets sold separately)	M22520/5-01	227-944
Pneumatic Crimp Tool with Swivel Base, Foot Switch and Hose (Connects tool to foot switch) (Die Sets for 227-60 are same as those used in Hand Tool Frame 227-944 and are sold separately)	—	227-60



## SMA and APC-7 tools



SMA Compression Crimp Tool

Amphenol No.	Military No.	Description
227-1451	M22520/36-101	Tool Frame
227-1451-1	M22520/36-102	Positioning Dies for .086" S/R
227-1451-2	M22520/36-103	Positioning Dies for .141" S/R
227-1451-3	M22520/36-104	Locator Pin for 901-606, -613, -614
227-1451-4	M22520/36-105	Locator Pin for 901-617, -618, -619, -620, -621, -622
227-1451-5	—	Removal Tool for Locator Pins



Mini 8-indent Tool for Crimping SMA Center Contacts

Amphenol No.	Military No.	Description
227-1454	M22520/2-01	Tool Frame
227-1454-1	—	Positioner for SMA Plugs 901-9511-1SFC, -3SFC, -12SFC



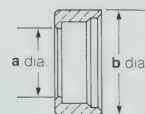
227-901-2512	SMA Compression Crimp Sleeve Removal Tool
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**227-901-2400** - SMA Taper Tool, used to put point on center conductor of .141" semi-rigid cable, for connectors using cable center conductor as center contact of connector.



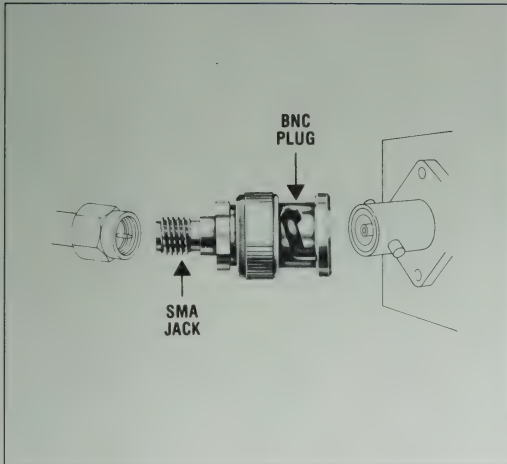
**227-131-2025** APC-7 Tool Kit, recommended for assembly and disassembly of connectors to airline. Kit contains collet extractor, line wrench, spanner wrench, and torque wrench.



SMA Compression Crimp Sleeves

Amphenol No.	Description	Dim. a	Dim. b
901-6255-1	Pkge. of 50 for .141" S/R	.147(3.7)	.220(5.6)
901-6374-1	Pkge. of 50 for .086" S/R	.092(2.3)	.165(4.2)

# between series adapters index



## Application Notes

Amphenol Between Series Adapters are used to join two incompatible series. When a single connector series is involved, the adapters are called "In-Series" and are described within the catalog section dealing with that series. The adapters cataloged here provide a transition from one connector series to another.

A configuration is available to satisfy almost every application. However, should you require a special mating characteristic or configuration, contact your nearest Amphenol RF Sales Representative or call the factory.

## Adapter Terminology

It is necessary to be very explicit about the adapter ends. Some people describe an adapter by designating with what it is to mate, such as an adapter for two plugs. This is not an adapter with two male or plug ends, but just the opposite. . . an adapter with two female or jack ends.

We prefer to describe an adapter by referring to its own construction. We indicate the specific series involved and the mating configuration of each end of the adapter required. . . SMA jack to BNC plug, for instance. One end of the adapter is an SMA jack. The other end is a BNC plug. The fact that it joins an SMA plug to a BNC jack is understood.

## About this index

You will find the various series listed alphabetically. In addition, this is a redundant index, which means that—because each Between Series Adapter has two distinct ends—we have listed each adapter twice. . . once under each series. Thus, no matter which end of the adapter comes to mind when you go to look it up in this index, you will be able to find it.

ADAPTER ENDS	CONFIGURATION MIL NUMBER	AMPHENOL NUMBER	PAGE NO.	FIG.
<b>APC-7®</b>				
APC-7 SMA Jack	Straight	131-91028	96	2
APC-7 SMA Plug	Straight	131-91038	96	1
<b>APC-N</b>				
APC-N Jack SMA Jack	Straight	131-1077	96	4
APC-N Jack SMA Jack	Bulkhead	131-1185	93	1
APC-N Jack SMA Plug	Straight	131-1076	96	3
APC-N Plug SMA Jack	Straight	131-1075	94	2
APC-N Plug SMA Plug	Straight	131-1074	94	1
<b>BNC</b>				
BNC Jack C Plug	Straight UG-636A/U	83200	96	5
BNC Jack HN Plug	Straight UG-309/U	8900	96	6
BNC Jack MB Plug	Straight	47250	96	7
BNC Jack N Jack	Straight	82-5550-1000	96	9
BNC Jack N Plug	Straight UG-201A/U	31-216	96	8
BNC Jack N Plug	Straight	31-216-RFX	96	8
BNC Jack N Plug	Straight M55339/20-00201	82-5558	96	8
BNC Jack SMA Jack	Straight	901-167	96	11
BNC Jack SMA Jack	Bulkhead	901-9173	93	2
BNC Jack SMA Plug	Straight	901-166	96	10
BNC Jack SMC Jack	Blkh .062 amp fuse	903-377A-52B1	93	4
BNC Jack SMC Jack	Blkh .125 amp fuse	903-377A-52B2	93	4
BNC Jack TNC Jack	Straight	76400	96	12
BNC Jack TNC Plug	Straight	79675	96	13
BNC Jack UHF Plug	Straight UG-273/U	31-28	97	14
BNC Jack UHF Plug	Straight	31-28-RFX	97	14
BNC Plug C Jack	Straight UG-635/U	83175	94	3
BNC Plug MB Jack	Straight	47275	94	4
BNC Plug N Jack	Straight UG-349A/U	31-217	94	6
BNC Plug N Jack	Straight	31-217-RFX	94	6
BNC Plug N Plug	Straight UG-1034/U	5225	94	5
BNC Plug SMA Jack	Straight	901-165	94	8
BNC Plug SMA Plug	Straight	901-164	94	7
BNC Plug TNC Jack	Straight	79025	94	9
BNC Plug UHF Jack	Straight UG-255/U	2900	94	10
BNC Plug UHF Jack	Straight	2900-RFX	94	10
<b>Type C</b>				
C Jack BNC Plug	Straight UG-635A/U	83175	94	3
C Jack N Plug	Straight UG-564/U	82-508	97	15
C Plug BNC Jack	Straight UG-636A/U	83200	96	5
C Plug N Jack	Straight UG-565A/U	82-540	94	11
<b>HN Series</b>				
HN Jack N Jack	Straight	16100	97	16
HN Jack N Plug	Straight	16075	97	17
HN Plug BNC Jack	Straight UG-309/U	8900	96	6
HN Plug N Jack	Straight	16050	94	12
<b>MB Series</b>				
MB Jack BNC Plug	Straight	47275	94	4
MB Plug BNC Jack	Straight	47250	96	7
<b>Type N</b>				
N Jack BNC Jack	Straight	82-5550-1000	96	9
N Jack BNC Plug	Straight UG-349A/U	31-217	94	6
N Jack BNC Plug	Straight	31-217-RFX	94	6
N Jack C Plug	Straight UG-565A/U	82-540	94	11
N Jack HN Jack	Straight	16100	97	16
N Jack HN Plug	Straight	16050	94	12
N Jack SMA Jack	Straight	901-295	97	19
N Jack SMA Jack	Bulkhead	901-3143-1000	93	3
N Jack SMA Jack	Panel	901-9011	93	5
N Jack SMA Jack	Panel	901-9720	93	5
N Jack SMA Plug	Straight	901-293	97	18
N Jack SMA Plug	Panel	901-B2504-317	93	6
N Jack TNC Jack	Straight	78825	98	1
N Jack TNC Plug	Straight	79825	98	2
N Jack UHF Plug	Straight UG-83/U	14000	98	3
N Jack 3.5mm Jack	Panel	901-9718	93	7
N Plug BNC Jack	Straight UG-201A/U	31-216	96	8
N Plug BNC Jack	Straight	31-216-RFX	96	8
N Plug BNC Jack	Straight M55339/20-00201	82-5558	96	8
N Plug BNC Plug	Straight UG-1034/U	5225	94	5
N Plug C Jack	Straight UG-564/U	82-508	97	15
N Plug HN Jack	Straight	16075	97	17

# between series adapters index: continued

ADAPTER ENDS		CONFIGURATION MIL NUMBER	AMPHENOL NUMBER	PAGE NO.	FIG.
<b>Type N continued</b>					
N Plug	SMA Jack	Straight	901-294	94	14
N Plug	SMA Plug	Straight	901-292	94	13
N Plug	TNC Jack	Straight	78800	95	16
N Plug	TNC Plug	Straight	79850	94	15
N Plug	UHF Jack	Straight UG-146/U	4400	95	18
N Plug	UHF Plug	Straight UG-318/U	26700	95	17
<b>SMA</b>					
SMA Jack	APC-7	Straight	131-91028	96	2
SMA Jack	APC-N Jack	Straight	131-1077	96	4
SMA Jack	APC-N Jack	Bulkhead	131-1185	93	1
SMA Jack	APC-N Plug	Straight	131-1075	94	2
SMA Jack	BNC Jack	Straight	901-167	96	11
SMA Jack	BNC Jack	Bulkhead	901-9173	93	2
SMA Jack	BNC Plug	Straight	901-165	94	8
SMA Jack	N Jack	Straight	901-295	97	19
SMA Jack	N Jack	Bulkhead	901-3143-1000	93	3
SMA Jack	N Jack	Panel	901-9011	93	5
SMA Jack	N Jack	Panel	901-9720	93	5
SMA Jack	N Plug	Straight	901-294	94	14
SMA Jack	SMB Jack	Straight	901-9033	98	5
SMA Jack	SMB Plug	Straight	901-9034	98	4
SMA Jack	SMC Jack	Straight	901-9035	98	7
SMA Jack	SMC Plug	Straight	901-9036	98	6
SMA Jack	TNC Jack	Straight	901-171	98	9
SMA Jack	TNC Jack	Panel	901-280	93	8
SMA Jack	TNC Plug	Straight	901-169	98	8
SMA Jack	APC-7	Straight	131-91038	96	1
SMA Plug	APC-N Jack	Straight	131-1076	96	3
SMA Plug	APC-N Plug	Straight	131-1074	94	1
SMA Plug	BNC Jack	Straight	901-166	96	10
SMA Plug	BNC Plug	Straight	901-164	94	7
SMA Plug	N Jack	Straight	901-293	97	18
SMA Plug	N Jack	Panel	901-B2504-317	93	6
SMA Plug	N Plug	Straight	901-292	94	13
SMA Plug	SMB Jack	Straight	901-9037	95	20
SMA Plug	SMB Plug	Straight	901-9038	95	19
SMA Plug	TNC Plug	Straight	901-168	95	21
<b>SMB</b>					
SMB Jack	SMA Jack	Straight	901-9033	98	5
SMB Jack	SMA Plug	Straight	901-9037	95	20
SMB Plug	SMA Jack	Straight	901-9034	98	4
SMB Plug	SMA Plug	Straight	901-9038	95	19
<b>SMC</b>					
SMC Jack	BNC Jack	Blkh .062 amp fuse	903-377A-52B1	93	4
SMC Jack	BNC Jack	Blkh .125 amp fuse	903-377A-52B2	93	4
SMC Jack	SMA Jack	Straight	901-9035	98	7
SMC Plug	SMA Jack	Straight	901-9036	98	6
<b>TNC</b>					
TNC Jack	BNC Jack	Straight	76400	96	12
TNC Jack	BNC Plug	Straight	79025	94	9
TNC Jack	N Jack	Straight	78825	98	1
TNC Jack	N Plug	Straight	78800	95	12
TNC Jack	SMA Jack	Straight	901-171	98	9
TNC Jack	SMA Jack	Panel	901-280	93	8
TNC Plug	BNC Jack	Straight	79675	96	13
TNC Plug	N Jack	Straight	79825	98	2
TNC Plug	N Plug	Straight	79850	94	15
TNC Plug	SMA Jack	Straight	901-169	98	8
TNC Plug	SMA Plug	Straight	901-168	95	21
<b>UHF</b>					
UHF Jack	BNC Plug	Straight UG-255/U	2900	94	10
UHF Jack	BNC Plug	Straight	2900-RFX	94	10
UHF Jack	N Plug	Straight UG-146/U	4400	95	18
UHF Jack	RCA Plug	Straight	83-10	98	10
UHF Plug	BNC Jack	Straight UG-277/U	31-28	97	14
UHF Plug	BNC Jack	Straight	31-28-RFX	97	14
UHF Plug	N Jack	Straight UG-83/U	14000	98	3
UHF Plug	N Plug	Straight UG-318/U	26700	95	17
<b>OTHER</b>					
RCA Plug	UHF Jack	Straight	83-10	98	10
3.5 mm Jack	N Jack	Panel	901-9718	93	7

## BULKHEAD AND PANEL MOUNT ADAPTERS

Adapter Ends		Dimensions, inches (millimeters)						Plt.	Ins.	Mtg. Hole	Notes	Amphenol Number	Fig.
		a	b	c	d	e	f						
APC-N Jack	SMA Jack	1.52(38.5)	.812(20.6) dia. .125(3.2) thick	.564(14.3)	.951(24.2)	.250(6.4) max	.826(21.0)	P46	D1/18	U	Bulkhead Mount	131-1185	1
BNC Jack	SMA Jack	1.12(28.6)	.595(15.1) dia. .090(2.3) thick	.425(10.8)	.700(17.8)	.125(3.2) max	.610(15.5)	P30	D1	D	Bulkh. Mount w/gasket	901-9173	2
N Jack	SMA Jack	1.36(34.6)	.812(20.6) hex. .094(2.4) thick	.348(8.8)	1.01(25.7)	.685(17.4)	.918(23.3)	P31	D1	U	Bulkh. Mount w/gasket	901-3143-1000	3
BNC Jack	SMC Jack	1.32(33.6)	.710(16.0) dia. .060(1.5) thick	.529(13.4)	.796(20.2)	.250(6.4)	.736(18.7)	P32	D1	W	.062 amp Fuse .125 amp Fuse	903-377A-52B1 903-377A-52B2	4
N Jack	SMA Jack	1.22(31.0)	1.00(25.4) sq. .080(2.0) thick	.656(16.7)	.562(14.3)	—	.482(12.2)	P30	D1	N	4-hole Flange Mount	901-9011	5
N Jack	SMA Jack	1.23(31.2)	1.00(25.4) sq. .080(2.0) thick	.787(20.0)	.445(11.3)	—	.365(9.3)	P31	D1	N	4-hole Flange Mount	901-9720	5
N Jack	SMA Plug	1.28(32.5)	1.00(25.4) sq. .080(2.0) thick	.656(16.7)	.624(18.7)	—	.544(19.3)	P22	D1	N	4-hole Flange Mount	901-B2504-317	6
N Jack	3.5mm Jack	1.23(31.2)	1.00(25.4) sq. .080(2.0) thick	.787(20.0)	.445(11.3)	—	.365(9.3)	P31	D1	N	4-hole Flange Mount	901-9718	7
TNC Jack	SMA Jack	1.42(36.1)	.687(17.4) sq. .090(2.3) thick	.425(10.8)	1.00(25.4)	—	.910(23.1)	P51	D1	T	4-hole Flange Mount	901-280	8



# between series adapters\*

## BULKHEAD AND PANEL MOUNT ADAPTERS

Fig. 1

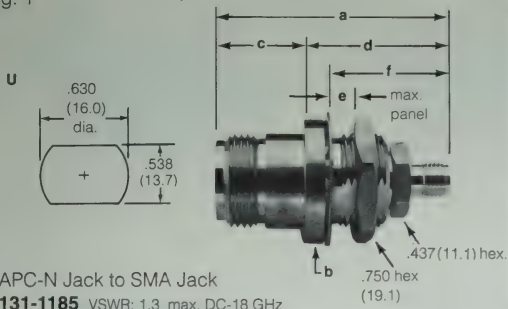


Fig. 2

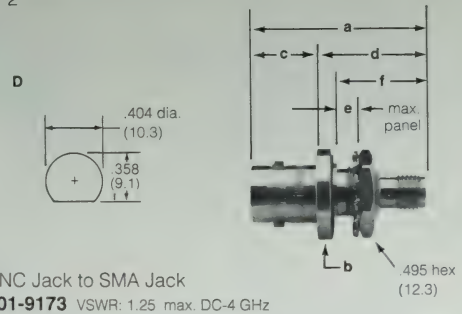


Fig. 3

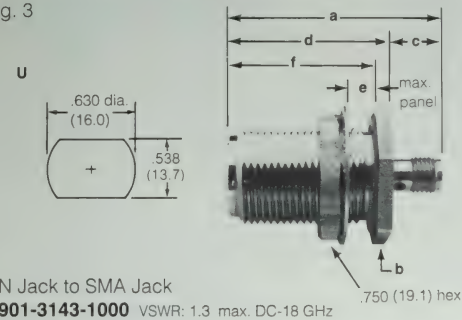


Fig. 4

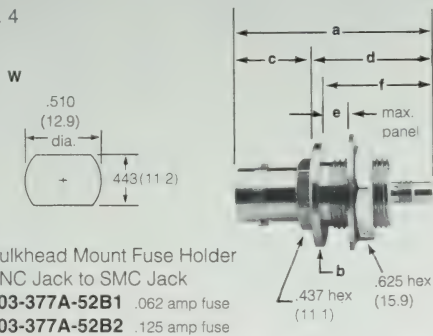


Fig. 5

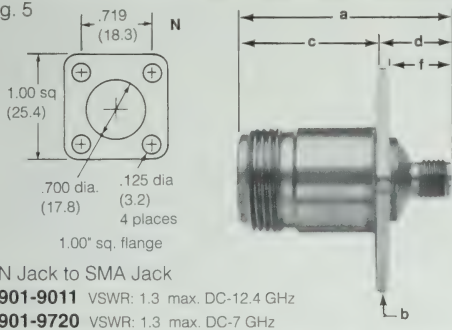


Fig. 6

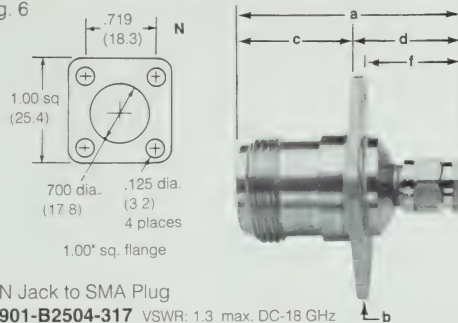


Fig. 7

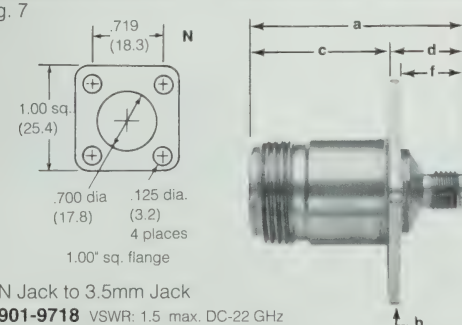
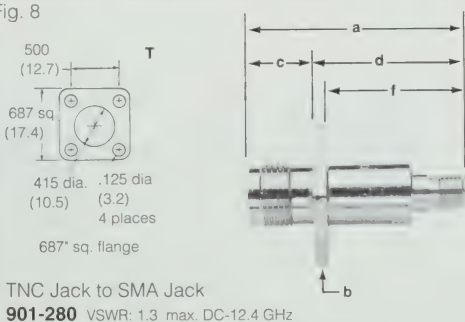


Fig. 8



\* for complete list of Between Series Adapters, please contact the factory

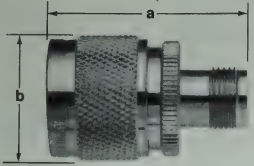
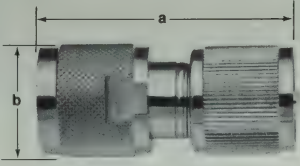
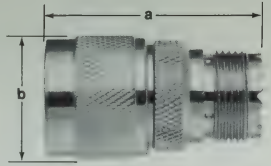
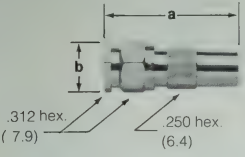
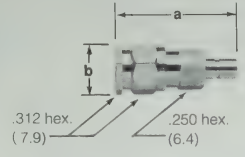
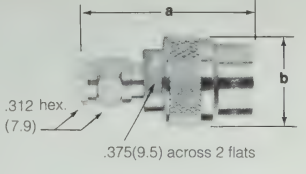
## between series adapters continued\*

### STRAIGHT ADAPTERS - PLUG TO PLUG OR JACK

<p>Fig. 1</p> <p>APC-N Plug to SMA Plug <b>131-1074</b> VSWR: 1.10 max. DC-18 GHz</p>	<p>Fig. 2</p> <p>APC-N Plug to SMA Jack <b>131-1075</b> VSWR: 1.10 max. DC-18 GHz</p>	<p>Fig. 3</p> <p>BNC Plug to C Jack <b>83175</b> (UG-635/U) VSWR: 1.35 max. DC-4 GHz</p>
<p>Fig. 4</p> <p>BNC Plug to MB Jack <b>47275</b></p>	<p>Fig. 5</p> <p>BNC Plug to N Plug <b>5225</b> (UG-1034/U) VSWR: 1.35 max. DC-4 GHz</p>	<p>Fig. 6</p> <p>BNC Plug to N Jack <b>31-217</b> (UG-349A/U) <b>31-217-RFX</b> VSWR: 1.35 max. DC-4 GHz</p>
<p>Fig. 7</p> <p>BNC Plug to SMA Plug <b>901-164</b> VSWR: 1.3 max. DC-4 GHz</p>	<p>Fig. 8</p> <p>BNC Plug to SMA Jack <b>901-165</b> VSWR: 1.3 max. DC-4 GHz</p>	<p>Fig. 9</p> <p>BNC Plug to TNC Jack <b>79025</b> VSWR: 1.25 max. DC-4 GHz</p>
<p>Fig. 10</p> <p>BNC Plug to UHF Jack <b>2900</b> (UG-255/U) <b>2900-RFX</b></p>	<p>Fig. 11</p> <p>C Plug to N Jack <b>82-540</b> (UG-565A/U) VSWR: 1.35 max. DC-11 GHz</p>	<p>Fig. 12</p> <p>HN Plug to N Jack <b>16050</b></p>
<p>Fig. 13</p> <p>N Plug to SMA Plug <b>901-292</b> VSWR: 1.3 max. DC-12.4 GHz</p>	<p>Fig. 14</p> <p>N Plug to SMA Jack <b>901-294</b> VSWR: 1.3 max. DC-12.4 GHz</p>	<p>Fig. 15</p> <p>N Plug to TNC Plug <b>79850</b> VSWR: 1.35 max. DC-11 GHz</p>

\* for complete list of Between Series Adapters, please contact the factory

## between series adapters continued\*

<p>Fig. 16</p> <p>DC-11 GHz Max. VSWR: 1.35</p>  <p>N Plug to TNC Jack <b>78800</b> VSWR: 1.35 max. DC-11 GHz</p>	<p>Fig. 17</p>  <p>N Plug to UHF Plug <b>26700</b> (UG-318/U)</p>	<p>Fig. 18</p>  <p>N Plug to UHF Jack <b>4400</b> (UG-146/U)</p>
<p>Fig. 19</p>  <p>.312 hex. (7.9)      .250 hex. (6.4)</p> <p>SMA Plug to SMB Plug (female contact) <b>901-9038</b> VSWR: 1.08 max. DC-4 GHz</p>	<p>Fig. 20</p>  <p>.312 hex. (7.9)      .250 hex. (6.4)</p> <p>SMA Plug to SMB Jack (male contact) <b>901-9037</b> VSWR: 1.08 max. DC-4 GHz</p>	<p>Fig. 21</p>  <p>.312 hex. (7.9)      .375(9.5) across 2 flats</p> <p>SMA Plug to TNC Plug <b>901-168</b> VSWR: 1.3 max. DC-12.4 GHz</p>

## STRAIGHT ADAPTERS - PLUG TO PLUG OR JACK

Adapter Ends*		Dimensions, inches (millimeters)		Notes		Military Number	Amphenol Number	Fig.
		a	b	Plt.	Ins.			
APC-N Plug	SMA Plug	1.75 (44.5)	.812 (20.6) dia.	P43	D1/18	—	<b>131-1074</b>	1
APC-N Plug	SMA Jack	1.63 (41.3)	.812 (20.6) dia.	P44	D1/18	—	<b>131-1075</b>	2
BNC Plug	C Jack	1.28 (32.5)	.593 (15.1)	P7	D1	UG-635/U	<b>83175</b>	3
BNC Plug	MB Jack	1.00 (25.4)	.562 (14.3)	P1	D1/7	—	<b>47275</b>	4
BNC Plug	N Plug	1.50 (38.1)	.812 (20.6)	P7	D1	UG-1034/U	<b>5225</b>	5
BNC Plug	N Jack	1.56 (39.7)	.625 (15.9)	P1	D1	UG-349A/U	<b>31-217</b>	6
BNC Plug	N Jack	1.56 (39.7)	.625 (15.9)	P1	D1	—	<b>31-217-RFX</b>	6
BNC Plug	SMA Plug	1.09 (27.8)	.562 (14.3) dia	P49	D1	—	<b>901-164†</b>	7
BNC Plug	SMA Jack	1.06 (27.0)	.562 (14.3)	P8	D1	—	<b>901-165†</b>	8
BNC Plug	TNC Jack	1.25 (31.8)	.625 (15.9)	P1	D1	—	<b>79025</b>	9
BNC Plug	UHF Jack	1.31 (33.3)	.625 (15.9)	P1	D6/8	UG-255/U	<b>2900</b>	10
BNC Plug	UHF Jack	1.31 (33.3)	.625 (15.9)	P1	D6/8	—	<b>2900-RFX</b>	10
C Plug	N Jack	1.54 (38.9)	.750 (19.1)	P7	D1	UG-565A/U	<b>82-540</b>	11
HN Plug	N Jack	1.56 (39.7)	.875 (22.2)	P1	D1	—	<b>16050</b>	12
N Plug	SMA Plug	1.70 (43.2)	.812 (20.6) dia.	P52	D1	—	<b>901-292†</b>	13
N Plug	SMA Jack	1.66 (42.1)	.812 (20.6)	P9	D1	—	<b>901-294†</b>	14
N Plug	TNC Plug	1.56 (39.7)	.813 (20.6)	P1	D1	—	<b>79850</b>	15
N Plug	TNC Jack	1.94 (33.3)	.813 (20.6)	P1	D1	—	<b>78800</b>	16
N Plug	UHF Plug	1.73 (44.1)	.750 (19.1)	P1	D1/6	UG-318/U	<b>26700</b>	17
N Plug	UHF Jack	1.41 (35.7)	.813 (20.6)	P1	D6/8	UG-146/U	<b>4400</b>	18
SMA Plug	SMB Plug	.875 (22.2)	.312 (7.9) hex	P29	D1	—	<b>901-9038</b>	19
SMA Plug	SMB Jack	.812 (20.6)	.312 (7.9) hex.	P31	D1	—	<b>901-9037</b>	20
SMA Plug	TNC Plug	1.12 (28.6)	.593 (15.1) dia.	P51	D1	—	<b>901-168†</b>	21

\* for complete list of Between Series Adapters, please contact the factory

† BeCu body



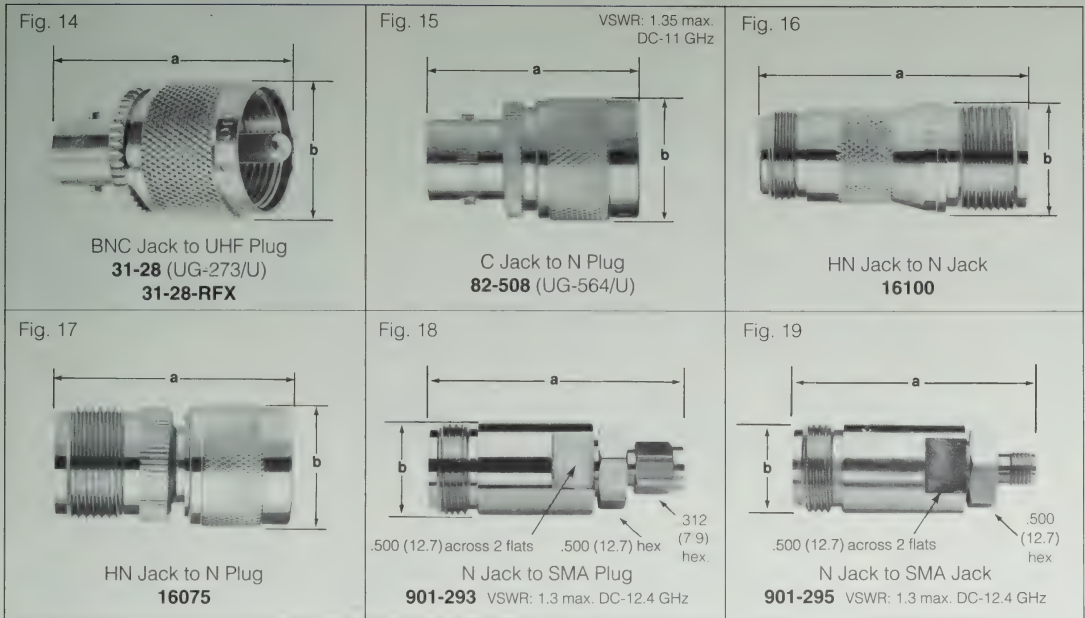
## between series adapters\*

### STRAIGHT ADAPTERS - JACK TO PLUG OR JACK

<p>Fig. 1</p> <p>APC-7 to SMA Plug <b>131-91038</b> VSWR: 1.07 max. DC-18 GHz</p>	<p>Fig. 2</p> <p>APC-7 to SMA Jack <b>131-91028</b> VSWR: 1.07 max. DC-18 GHz</p>	
<p>Fig. 3</p> <p>APC-N Jack to SMA Plug <b>131-1076</b> VSWR: 1.1 max. DC-18 GHz</p>	<p>Fig. 4</p> <p>APC-N Jack to SMA Jack <b>131-1077</b> VSWR: 1.1 max. DC-18 GHz</p>	
<p>Fig. 5</p> <p>BNC Jack to C Plug <b>83200</b> (UG-636A/U)</p> <p>VSWR: 1.2 max. DC-4 GHz</p>	<p>Fig. 6</p> <p>BNC Jack to HN Plug <b>8900</b> (UG-309/U)</p>	<p>Fig. 7</p> <p>BNC Jack to MB Plug <b>47250</b></p>
<p>Fig. 8</p> <p>BNC Jack to N Plug <b>31-216</b> (UG-201A/U) <b>31-216-RFX</b> <b>82-5558</b> (M55339/20-00201)</p> <p>VSWR: 1.35 max. DC-4 GHz</p>	<p>Fig. 9</p> <p>BNC Jack to N Jack <b>82-5550-1000</b> VSWR: 1.3 max. DC-4 GHz</p>	<p>Fig. 10</p> <p>BNC Jack to SMA Plug <b>901-166</b> VSWR: 1.3 max. DC-4 GHz</p>
<p>Fig. 11</p> <p>BNC Jack to SMA Jack <b>901-167</b> VSWR: 1.3 max. DC-4 GHz</p>	<p>Fig. 12</p> <p>BNC Jack to TNC Jack <b>76400</b> VSWR: 1.25 max. DC-4 GHz</p>	<p>Fig. 13</p> <p>BNC Jack to TNC Plug <b>79675</b> VSWR: 1.25 max. DC-4 GHz</p>

\* for complete list of Between Series Adapters, please contact the factory

# between series adapters continued\*



## STRAIGHT ADAPTERS - JACK TO PLUG OR JACK

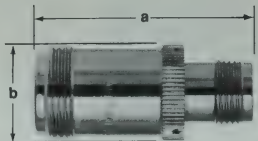
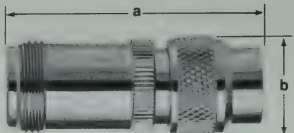
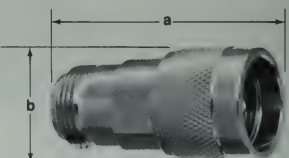
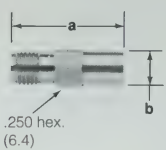
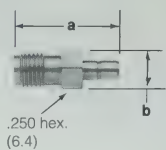
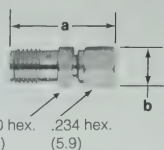
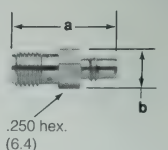
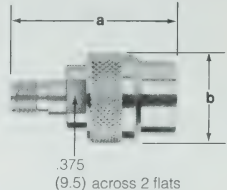
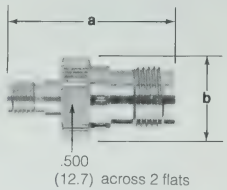
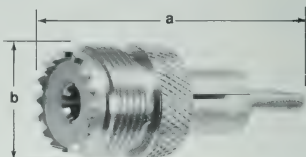
Adapter Ends*		Dimensions, inches (millimeters)		Notes		Military Number	Amphenol Number	Fig.
		a	b	Plt.	Ins.			
APC-7	SMA Plug	1.39 (35.3)	.865 (22.0) dia.	P48	D1/18	—	<b>131-91038†</b> ★	1
APC-7	SMA Jack	1.31 (33.3)	.865 (22.0) dia.	P48	D1/18	—	<b>131-91028†</b> ★	2
APC-N Jack	SMA Plug	1.72 (43.6)	.625 (15.9) dia.	P45	D1/18	—	<b>131-1076</b>	3
APC-N Jack	SMA Jack	1.59 (40.5)	.625 (15.9) dia.	P44	D1/18	—	<b>131-1077</b>	4
BNC Jack	C Plug	1.23 (31.3)	.500 (19.1)	* P7	D1	UG-636A/U	<b>83200</b>	5
BNC Jack	HN Plug	1.50 (38.1)	.843 (21.4)	P1	D1	UG-309/U	<b>8900</b>	6
BNC Jack	MB Plug	.940 (23.8)	.562 (14.3)	P1	D1/6	—	<b>47250</b>	7
BNC Jack	N Plug	1.31 (33.3)	.812 (20.6)	P1	D1	UG-201A/U	<b>31-216</b>	8
BNC Jack	N Plug	1.31 (33.3)	.812 (20.6)	P1	D1	—	<b>31-216-RFX</b>	8
BNC Jack	N Plug	1.36 (34.4)	.828 (21.0)	P6	D1	M55339/20-00201	<b>82-5558</b>	8
BNC Jack	N Jack	1.14 (29.0)	.750 (19.1)	P1	D1	—	<b>82-5550-1000</b>	9
BNC Jack	SMA Plug	1.16 (29.4)	.562 (14.3) dia.	P51	D1	—	<b>901-166†</b>	10
BNC Jack	SMA Jack	1.12 (28.6)	.562 (14.3) dia.	P51	D1	—	<b>901-167†</b>	11
BNC Jack	TNC Jack	1.59 (32.5)	.438 (11.1)	P1	D1	—	<b>76400</b>	12
BNC Jack	TNC Plug	1.25 (31.8)	.525 (15.9)	P1	D1	—	<b>79675</b>	13
BNC Jack	UHF Plug	1.19 (30.2)	.719 (18.3)	P1	D6	UG-273/U	<b>31-28</b>	14
BNC Jack	UHF Plug	1.19 (30.2)	.719 (18.3)	P1	D6	—	<b>31-28-RFX</b>	14
C Jack	N Plug	1.38 (34.9)	.812 (20.6)	P7	D1	UG-564/U	<b>82-508</b>	15
HN Jack	N Jack	1.77 (44.8)	.750 (19.1)	P1	D1/6	—	<b>16100</b>	16
HN Jack	N Plug	1.56 (39.7)	.813 (20.6)	P1	D1	—	<b>16075</b>	17
N Jack	SMA plug	1.70 (43.2)	.625 (15.9) dia.	P52	D1	—	<b>901-293†</b>	18
N Jack	SMA Jack	1.66 (42.1)	.625 (15.9) dia.	P9	D1	—	<b>901-295†</b>	19

\* for complete list of Between Series Adapters, please contact the factory.

★ to obtain fluted nut, delete "9" from part number

† BeCu body

## between series adapters continued\*

<p>Fig. 1</p>  <p>N Jack to TNC Jack <b>78825</b> VSWR: 1.35 max. DC-11 GHz</p>	<p>Fig. 2</p>  <p>N Jack to TNC Plug <b>79825</b> VSWR: 1.35 max. DC-11 GHz</p>	<p>Fig. 3</p>  <p>N Jack to UHF Plug <b>14000</b> (UG-83/U)</p>	
<p>Fig. 4</p> <p>VSWR: 1.08 max. DC-4 GHz</p>  <p>SMA Jack to SMB Plug (female contact) <b>901-9034</b></p>	<p>Fig. 5</p> <p>VSWR: 1.08 max. DC-4 GHz</p>  <p>SMA Jack to SMB Jack (male contact) <b>901-9033</b></p>	<p>Fig. 6</p> <p>VSWR: 1.12 max. DC-10 GHz</p>  <p>SMA Jack to SMC Plug (female contact) <b>901-9036</b></p>	<p>Fig. 7</p> <p>VSWR: 1.12 max. DC-10 GHz</p>  <p>SMA Jack to SMC Jack (male contact) <b>901-9035</b></p>
<p>Fig. 8</p> <p>VSWR: 1.3 max. DC-12.4 GHz</p>  <p>SMA Jack to TNC Plug <b>901-169</b></p>	<p>Fig. 9</p> <p>VSWR: 1.3 max. DC-12.4 GHz</p>  <p>SMA Jack to TNC Jack <b>901-171</b></p>	<p>Fig. 10</p>  <p>UHF Jack to RCA Plug <b>83-10</b></p>	

### STRAIGHT ADAPTERS - JACK TO PLUG OR JACK - CONTINUED

Adapter Ends*		Dimensions, inches (millimeters)		Notes		Military Number	Amphenol Number	Fig.
		a	b	Plt.	Ins.			
N Jack	TNC Jack	1.39 (35.3)	.625 (15.9)	P1	D1	—	<b>78825</b>	1
N Jack	TNC Plug	1.66 (42.1)	.625 (15.9)	P1	D1	—	<b>79825</b>	2
N Jack	UHF Plug	1.56 (39.7)	.750 (19.1)	P1	D1/6	UG-83/U	<b>14000</b>	3
SMA Jack	SMB Plug	.750 (19.1)	.250 (6.4) hex.	P1	D1	—	<b>901-9034</b>	4
SMA Jack	SMB Jack	.705 (17.9)	.250 (6.4) hex.	P30	D1	—	<b>901-9033</b>	5
SMA Jack	SMC Plug	.750 (19.1)	.250 (6.4) hex.	P17	D1	—	<b>901-9036</b>	6
SMA Jack	SMC Jack	.705 (17.9)	.250 (6.4) hex.	P17	D1	—	<b>901-9035</b>	7
SMA Jack	TNC Plug	1.09 (27.8)	.593 (15.1) dia.	P51	D1	—	<b>901-169</b>	8
SMA Jack	TNC Jack	1.12 (28.6)	.562 (14.3) dia.	P51	D1	—	<b>901-171</b>	9
UHF Jack	RCA Plug	1.64 (41.7)	.650 (16.5) hex.	P3	D10	—	<b>83-10</b>	10



**Amphenol  
RFX™**

**QUALITY  
SERVICE  
PRICE**

The Amphenol line of commercial connectors, with our brand name RFX™, is specifically designed for applications that do not require performance above 1 to 3 GHz. The RFX™ line is used principally in computer network and commercial communications systems. RFX™ connectors are not for use in military system applications.

RFX™ connectors are generally less expensive than MIL-Spec and industry standard connectors.

For a summary of RFX™ connector specifications, see page 26.

For additional information on the use of RFX™ connectors in commercial applications, please contact the factory.

## RFX™ commercial connectors

Amphenol RFX™ Part Number Index	100
RFX™/UG Reference	101
RFX™/Data Transmission Reference	101
RFX™ Cable to Connector Index	119
RFX™ Connector Assembly Index	101
RFX™ Plating & Insulator References	101
RFX™ Connector Specifications	26

## RFX™ coaxial and twinaxial connectors

50Ω & 75Ω BNC	102 - 108
TNC	109 - 110
UHF	111 - 112
Mini-UHF	118
Type N	113 - 115
Keyed 90° TWINAX	116 - 117
Between Series Adapters	91
CTL Series Tools for Connector Assembly	88

# Amphenol RFX™ part number index

AMPHENOL RFX NUMBER	UG REF. NUMBER‡	TYPE	DESCRIPTION	PAGE
2900-RFX	UG-255/U	BNC/UHF	Adapter (P/J)	95
6775-RFX	UG-959/U	BNC	Plug RG-8 Clamp	102
7925-RFX	UG-493A/U	Twin	Bulkhead Adapter (J/J)	116
26650-RFX	—	Twin	Tee Adapter (J/P/J)	116
34025-RFX	UG-536B/U	N	Plug RG-58 Clamp	113
34525-75RFX	—	75Ω N	Plug RG-59 Clamp	113
35025-RFX	—	N	Jack RG-58, 142A Clamp	113
36500-75RFX	—	75Ω N	Plug RG-59 Clamp	113
36650-3RFX	—	BNC	Plug Plenum-58 Crimp	102
36800-RFX	—	BNC	Jack RG-58 Crimp	103
46650-51RFX	—	BNC	Male Cap. RT 50Ω	105
46650-75RFX	—	BNC	Male Cap. RT 75Ω	105
46650-93RFX	—	BNC	Male Cap. RT 93Ω	105
68175-5RFX	—	BNC	Plug RG-59 20AWG Crimp	102
68175-11RFX	—	BNC	Plug Plenum-59 Crimp	102
79100-NRFX	—	TNC	Bulkhead Adapter (J/J)	109
79525-75RFX	—	75Ω TNC	Plug RG-59 Clamp	109
79875-RFX	—	TNC	Plug RG-58 Clamp	109
<b>31 Series</b>				
31-2-RFX	UG-88/U	BNC	Plug RG-58 Clamp	102
31-3-RFX	UG-89/U	BNC	Jack RG-58 Clamp	103
31-9-RFX	UG-306/U	BNC	Angle Adapter (J/P)	105
31-10-RFX	—	BNC	Iso. Bulkhead Receptacle (J)	104
31-10-75RFX	—	75Ω BNC	Iso. Bulkhead Receptacle (J)	104
31-15-RFX	UG-261/U	BNC	Jack RG-59.62 Clamp	103
31-28-RFX	UG-273/U	BNC/UHF	Adapter (J/P)	97
31-223-RFX	UG-290A/U	BNC	Panel Receptacle (J)	104
31-208-RFX	UG-274A/U	BNC	Tee Adapter (J/P/J)	102
31-212-RFX	UG-260B/U	BNC	Plug RG-59 Clamp	105
31-216-RFX	UG-201A/U	BNC/N	Adapter (J/P)	96
31-217-RFX	UG-349A/U	BNC/N	Adapter (P/J)	95
31-218-RFX	UG-491A/U	BNC	Adapter (P/P)	105
31-218-75RFX	—	75Ω BNC	Adapter (P/P)	105
31-219-RFX	UG-314/U	BNC	Adapter (J/J)	103
31-220-RFX	—	BNC	Bulkhead Adapter (J/J)	105
31-220N-RFX	—	BNC	Bulkhead Adapter (J/J)	105
31-220N-75RFX	—	75Ω BNC	Bulkhead Adapter (J/J)	105
31-221-RFX	UG-1094/U	BNC	Bulkhead Receptacle (J)	104
31-221-75RFX	—	75Ω BNC	Bulkhead Receptacle (J)	104
31-236-RFX	UG-625B/U	BNC	Bulkhead Receptacle (J)	104
31-242-RFX	—	BNC	Plug RG-179 Crimp	102
31-245-RFX	—	BNC	Bulkhead Jack RG-179 Crimp	103
31-315-RFX	—	BNC	Plug RG-174.316 Crimp	102
31-318-RFX	—	BNC	Bulkhead Jack RG-174.316 Crimp	103
31-320-RFX	—	BNC	Plug RG-58 Crimp	102
31-321-RFX	—	BNC	Plug RG-59 Crimp	102
31-321-10RFX	—	BNC	Plug B8281 Crimp	102
31-335-RFX	—	BNC	Angle Plug RG-58 142A Crimp	104
31-336-RFX	—	BNC	Angle Plug RG-59 Crimp	104
31-340-RFX	—	BNC	Bulkhead Jack RG-58 Crimp	103
31-340-RFX	—	BNC	Bulkhead Jack RG-59 Crimp	103
31-340-RFX	—	TNC	Plug RG-179 Crimp	109
31-350-RFX	—	TNC	Bulkhead Jack RG-179 Crimp	109
31-350-RFX	—	TNC	Panel Receptacle (J)	109
31-350-RFX	—	TNC	Plug RG-174.316 Crimp	109
31-350-RFX	—	TNC	Plug RG-58 142A Crimp	109
31-350-RFX	—	TNC	Plug RG-59.62 Crimp	109
31-350-RFX	—	TNC	Bulkhead Jack RG-58 142A Crimp	109
31-350-RFX	—	BNC	Plug RG-59 QUICKTRIM®	102
31-350-RFX	—	TNC	Straight Adapter (J/J)	109
31-350-RFX	—	BNC	Plug RG-59 SURETWIN®	102
31-350-RFX	—	BNC	Plug RG-58 SURETWIN®	102
31-512-RFX	—	BNC	PCB Recept (J) 4 legs Silver Cont	104
31-512-RFX	—	BNC	PCB Recept (J) 4 legs Gold Cont	104
31-512-RFX	—	75Ω BNC	PCB Recept (J) 4 legs Silver Cont	104
31-512-RFX	—	75Ω BNC	PCB Recept (J) 4 legs Gold Cont	104

AMPHENOL RFX NUMBER	UG REF. NUMBER‡	TYPE	DESCRIPTION	PAGE
<b>31 Series (continued)</b>				
31-5556-RFX	—	BNC	Plug RG-59 Crimp 2pc	102
31-5557-RFX	—	BNC	Plug RG-58 Crimp 2pc	102
31-5558-RFX	—	BNC	Plug RG-6 Crimp 3pc	102
31-5559-RFX	—	BNC	Plug Plenum-58 Crimp 2 pc	102
31-5560-RFX	—	BNC	Plug Plenum-59 Crimp 2 pc	102
31-10152-RFX	—	BNC	Grounding Lug	104
31-71000-RFX	—	75Ω BNC	Plug B9248 RG-6 Crimp	102
31-71008-RFX	—	75Ω BNC	Plug RG-59 Crimp	102
31-71009-RFX	—	75Ω BNC	Jack RG-59 Crimp	103
31-71010-RFX	—	75Ω BNC	Angle Plug RG-59 Crimp	104
31-71011-RFX	—	75Ω BNC	Bulkhead Jack RG-59 Crimp	103
31-71012-RFX	—	75Ω BNC	Panel Jack RG-59 Crimp	103
31-71013-RFX	—	75Ω BNC	Plug RG-179 Crimp	102
31-71014-RFX	—	75Ω BNC	Jack RG-179 Crimp	103
31-71016-RFX	—	75Ω BNC	Bulkhead Jack RG-179 Crimp	103
31-71017-RFX	—	75Ω BNC	Panel Jack RG-179 Crimp	103
<b>81 Series</b>				
81-115-RFX	—	Mini-UHF	Plug RG-58, 142A Crimp	118
81-116-RFX	—	Mini-UHF	Jack RG-58, 142A Crimp	118
81-118-RFX	—	Mini-UHF	Panel Receptacle (J)	118
81-120-RFX	—	Mini-UHF	Bulkhead Receptacle (J)	118
<b>82 Series</b>				
82-63-RFX	UG23B/U	N	Jack RG-8 Clamp	113
82-97-RFX	UG-58A/U	N	Panel Receptacle (J)	114
82-100-RFX	UG-57B/U	N	Adapter (P/P)	114
82-101-RFX	UG-29B/U	N	Adapter (J/J)	114
82-102-RFX	UG-107B/U	N	Tee Adapter (J/P/J)	114
82-202-RFX	UG-21D/U	N	Plug RG-8 Clamp	113
82-4426-11RFX	—	N	Plug Ethernet™ Crimp	113
82-4429-RFX	—	N	Jack Ethernet™ RG-214 Crimp	113
82-5375-RFX	—	N	Plug RG-58 Crimp	113
82-5376-RFX	—	N	Jack RG-58, 142A Crimp	113
82-5588-RFX	—	Twin	Adapter (J/J)	116
82-5589-RFX	—	Twin	Plug B9207 Clamp	116
82-5590-RFX	—	Twin	Bulkhead Recept. Frnt Mt (J)	116
82-5677-RFX	—	Twin	Tee Adapter (J/J/J)	116
82-5721-10RFX	—	N	LANS Terminator (J)	114
82-5722-RFX	—	N	Male Cap RT 50Ω	114
<b>83 Series</b>				
83-1J-RFX	PL-258	UHF	Adapter (J/J)	111
83-1R-RFX	SO-239	UHF	Panel Receptacle (J)	111
83-1SP-15RFX	PL-259	UHF	Plug RG-8 UG Std	111
83-58FCP-RFX	—	UHF	Plug RG-58 FCP	111
83-166-RFX	UG-176/U	UHF	Reducing Adapter RG-59	111
83-166-RFX	UG-175/U	UHF	Reducing Adapter RG-58	111
83-822-RFX	PL-259	UHF	Plug (TFE Ins.) RG-8 UG Std	111
83-878-RFX	—	UHF	Bulkhead Receptacle (J)	111
<b>CTL Series Crimp Tools</b>				
CTL-1	—	Tool	Tool & Die Set Complete: Hex Cavities .052", .068", .100", .213", .255"	88
CTL-2	—	Tool	Tool & Die Set Complete: Hex Cavities .178", .324", .068"	
CTL-3	—	Tool	Tool & Die Set Complete: Hex Cavities .100", .429", .213"	
CTL-4	—	Tool	Tool & Die Set Complete: Hex Cavities .429", .075", .075"	

‡ For reference only - RFX™ connectors are for commercial use only.

## RFX/UG cross reference†

UG REF. NUMBER‡	AMPHENOL RFX NUMBER	TYPE	DESCRIPTION	PAGE
<b>UG-NUMBERS</b>				
UG-21D/U	82-202-RFX	N	Plug RG-8 Clamp	113
UG-23B/U	82-63-RFX	N	Jack RG-8 Clamp	113
UG-29B/U	82-101-RFX	N	Adapter (J/J)	114
UG-57B/U	82-100-RFX	N	Adapter (P/P)	114
UG-58A/U	82-97-RFX	N	Panel Receptacle (J)	114
UG-88/U	31-2-RFX	BNC	Plug RG-58 Clamp	102
UG-89/U	31-5-RFX	BNC	JACK RG-58 Clamp	103
UG-107B/U	82-102-RFX	N	Tee Adapter (J/P/J)	114
UG-175/U	83-185-RFX	UHF	Reducing Adapter RG-58	111
UG-176/U	83-168-RFX	UHF	Reducing Adapter RG-59	111
UG-201A/U	31-216-RFX	BNC/N	Adapter (J/P)	96
UG-255/U	2900-RFX	BNC/UHF	Adapter (P/J)	95
UG-260B/U	31-212-RFX	BNC	Plug RG-59 Clamp	102
UG-261/U	31-15-RFX	BNC	Jack RG-59 Clamp	103
UG-273/U	31-28-RFX	BNC/UHF	Adapter (J/P)	97
UG-274A/U	31-208-RFX	BNC	Tee Adapter (J/P/J)	105
UG-290A/U	31-203-RFX	BNC	Panel Receptacle (J)	104
UG-306/U	31-9-RFX	BNC	Angle Adapter (J/P)	105
UG-349A/U	31-217-RFX	BNC/N	Adapter (P/J)	95
UG-491A/U	31-218-RFX	BNC	Adapter (P/P)	105
UG-493A/U	7925-RFX	Twin	Bulkhead Adapter (J/J)	116
UG-536B/U	34025-RFX	N	Plug RG-58 Clamp	113
UG-625B/U	31-236-RFX	BNC	Bulkhead Receptacle (J)	104
UG-914/U	31-219-RFX	BNC	Adapter (J/J)	105
UG-959/U	6775-RFX	BNC	Plug RG-6 Clamp	102
UG-1094/U	31-221-RFX	BNC	Bulkhead Receptacle (J)	104
<b>MISCELLANEOUS</b>				
PL-258	83-1J-RFX	UHF	Adapter (J/J)	111
PL-259	83-1SP-15-RFX or	UHF	Plug RG-8 UG Std	111
	83-822-RFX	UHF	Plug (TFE Ins) RG-8 UG Std	111
SO-239	83-1R-RFX	UHF	Panel Receptacle (J)	111

## RFX data transmission cross ref.

WANG REF. NUMBER	AMPHENOL RFX NUMBER	TYPE	DESCRIPTION	PAGE
350-1036	31-221-RFX	BNC	Bulkhead Receptacle	104
350-2075	31-4541-RFX	BNC	Plug for RG-59, 62	102
350-2076	31-4791-RFX	TNC	Jack-Jack Adapter	109
350-3054	31-220G-RFX	BNC	Bulkhead Adapter	105

IBM REF. NUMBER	AMPHENOL RFX NUMBER	TYPE	DESCRIPTION	PAGE
1620666	31-221-RFX	BNC	Bulkhead Receptacle - Front Mt	104
1628045	31-71008-RFX	75Ω BNC	Plug for RG-59, 62	102
1836444	31-4541-RFX	BNC	QUICKTRIM® Plug RG-59, 62	102
317228	83-1R-RFX	UHF	Panel Receptacle	111
4178269	26850-RFX	Twin	Tee Adapter (J/P/J)	116
460147	83-1SP-15RFX	UHF	Plug RG-8, 9, 11, 213, 214, 225	111
5252764	31-220G-RFX	BNC	Bulkhead Adapter, J/J	105
6028521	31-9-RFX	BNC	Angle Adapter P/J	105
6851167	82-5677-RFX	Twin	Tee Adapter J/J	116
7362179	82-5590-RFX	Twin	Bulkhead Receptacle - Front Mt	116
7362229	82-5589-RFX	Twin	Plug for Twinax Cable 7362211	116
7362230	82-5588-RFX	Twin	Straight Adapter J/J	116
7369083	7925-RFX	Twin	Bulkhead Adapter (J/J)	116
925390	31-10-RFX	BNC	Receptacle - isolated from ground	104

† For reference only - RFX™ connectors are for commercial use only

## RFX connector assembly index

AMPHENOL RFX NUMBER	INSTRUCTION PAGE	AMPHENOL RFX NUMBER	INSTRUCTION PAGE
6775-RFX	108	31-5137-RFX	107
34025-RFX	115	31-5556-RFX	107
34525-75RFX	115	31-5557-RFX	107
35025-RFX	115	31-5558-RFX	106
36500-75RFX	115	31-5559-RFX	107
36650-3-RFX	106	31-5560-RFX	107
36800-RFX	106	31-71009-RFX	106
68175-5-RFX	106	31-71008-RFX	106
68175-11-RFX	106	31-71009-RFX	106
79525-75RFX	110	31-71010-RFX	106
79875-RFX	110	31-71011-RFX	106
		31-71012-RFX	106
		31-71013-RFX	106
		31-71014-RFX	106
		31-71016-RFX	106
		31-71017-RFX	106
<b>31 Series</b>			
31-2-RFX	108	<b>81 Series</b>	
31-5-RFX	108	81-115-RFX	118
31-15-RFX	108	81-116-RFX	118
31-212-RFX	108	<b>82 Series</b>	
31-242-RFX	106	82-63-RFX	115
31-245-RFX	106	82-202-RFX	115
31-315-RFX	106	82-4426-11-RFX	115
31-318-RFX	106	82-4429-RFX	115
31-320-RFX	106	82-5375-RFX	115
31-321-RFX	106	82-5376-RFX	115
31-321-10-RFX	106	82-5589-RFX	117
31-335-RFX	106	<b>83 Series</b>	
31-336-RFX	106	83-1SP-15RFX	112
31-342-RFX	106	83-58FCP-RFX	112
31-343-RFX	106	83-168-RFX	112
31-2242-RFX	110	83-185-RFX	112
31-2264-RFX	110	83-822-RFX	112
31-2315-RFX	110		
31-2367-RFX	110		
31-2368-RFX	110		
31-2389-RFX	110		
31-4541-RFX	107		
31-5136-RFX	107		

## RFX cable attachment ref.▲

CAI CODE	CONN TYPE	ATTACHMENT TYPE	INSTRUCTION PAGE
C1	UHF	UG Standard Solder Type	112
C2	UHF	FCP Type	112
C3	N	Clamp-Solder Type	112
C4	N	3 piece Crimp-Crimp Type	112
C5	Twinax	Clamp Type keyed Twinax	116
C6	BNC	3 piece Crimp-Crimp Type	106
C7	BNC	2 piece Single Crimp Type	107
C8	BNC	Clamp-Solder Type	108
C9	BNC	SURETWIST®	107
C10	BNC	QUICKTRIM®	107
C11	TNC	3 piece Crimp Type	110
C12	TNC	Clamp	110
C13	mini-UHF	3 piece Crimp Type	116

## RFX plating reference▲

PLT. CODE	BODY	CONTACT
P1	Nickel	Sold
P2	Nickel	Silver
P3	Nickel	Hot Tin Dip
P4	—	Hot Tin Dip

## RFX dielectric reference▲

INS. CODE	DIELECTRIC MATERIAL	INS. CODE	DIELECTRIC MATERIAL
D1	TFE	D5	Diaryl Phthalate Type SDG
D2	Delrin	D6	Polystyrene
D3	PBT Polyester	D7	Nylon
D4	Phenolic	D8	Polycarbonate

▲ the RFX™ pages of this catalog indicate the appropriate codes for a given RFX connector. See this page for the RFX references. For the Amphenol Standard RF connector references (NOT RFX) see page 9.



## RFX™ 50Ω & 75Ω BNC connectors

Amphenol® RFX™ BNC connectors are miniature bayonet-lock units. They are available in 50Ω and 75Ω types. The 50Ω type operates with low reflection DC-4 GHz on 50Ω cables and DC-500 MHz on 75 ohm cables. The 75Ω type operates DC-2 GHz on 75Ω cables. See specifications, page 26.

Fig. 1

50Ω & 75Ω BNC  
3 Piece  
Crimp Type  
Plugs

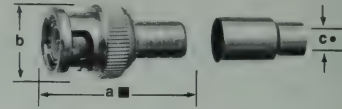


Cables Connectors

RG-6	50Ω	<b>31-5558-RFX</b>
	75Ω	<b>31-71000-RFX</b>
RG-58		<b>31-320-RFX</b>
Plenum 58		<b>36650-3RFX</b>
RG-59, 62	50Ω	<b>31-321-RFX</b>
	75Ω	<b>31-71008-RFX</b>
RG-59 (20 AWG Ctr Cond.)		<b>68175-5-RFX</b>
Plenum 59, 62		<b>68175-11RFX</b>
RG-174, 188, 316		<b>31-315-RFX</b>
RG-179, 187	50Ω	<b>31-242-RFX</b>
	75Ω	<b>31-71013-RFX</b>
Belden 8281		<b>31-321-10RFX</b>

Fig. 2

50Ω BNC  
2 Piece  
Single Crimp  
Plugs

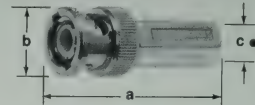


Cables Connectors

RG-58	<b>31-5557-RFX</b>
Plenum 58	<b>31-5559-RFX</b>
RG-59, 62	<b>31-5556-RFX</b>
Plenum 59,62	<b>31-5560-RFX</b>

Fig. 3

50Ω BNC  
SURETWIST®  
Plugs

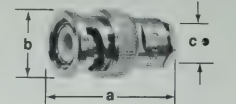


Cables Connectors

RG-58	<b>31-5137-RFX</b>
RG-59, 62	<b>31-5136-RFX</b>

Fig. 4

50Ω BNC  
Clamp Type  
Plugs



Cables Connectors

RG-8,213,214	<b>6775-RFX</b>
RG-58	<b>31-2-RFX (UG-88)</b>
RG-59, 62	<b>31-212-RFX (UG-260B)</b>

Fig. 5

50Ω BNC  
QUICKTRIM®  
Plugs



Cables Connectors

RG-59, 62	<b>31-4541-RFX</b> (IBM ref 1836444)
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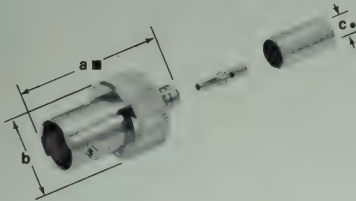
### RFX 50Ω & 75Ω BNC PLUGS • 2 stud bayonet mating • male contacts

Cable RG-/U	Cable Attachment		Dimensions, inches (millimeters)			Construction Notes					RFX	UG Ref.	Amphenol	Fig.
	Outer	Inner	a	b	c •	CAI	Plt.	Ins	Other	IMP	Tool No	Number‡	Number	
6	Crimp	Crimp	1.17(29.8)	.571(14.5)	.314(8.0)	C6	P1	D2	3 pc	50Ω	CTL-2	—	<b>31-5558-RFX</b>	1
	Crimp	Crimp	1.17(29.8)	.571(14.5)	.210(5.3)	C6	P1	D2	3 pc	75Ω	CTL-2	—	<b>31-71000-RFX</b>	1
8,213,214	Clamp	Solder	1.66(42.1)	.687(17.4)	.437(11.1)	C8	P2	D1	—	50Ω	—	UG-959	<b>6775-RFX</b>	4
	Crimp	Crimp	1.17(29.8)	.571(14.5)	.210(5.3)	C6	P1	D2	3 pc	50Ω	CTL-1	—	<b>31-320-RFX</b>	1
	Crimp	Press Fit	1.31(33.4)	.571(14.5)	.212(5.4)	C7	P1	D2	2 pc	50Ω	CTL-2	—	<b>31-5557-RFX</b>	2
	Clamp	Solder	1.07(27.2)	.571(14.5)	.212(5.4)	C8	P1	D2	—	50Ω	—	UG-88	<b>31-2-RFX</b>	4
58,141,142	SURETWIST®		1.48(37.6)	.571(14.5)	.185(4.7)	C9	P1	D2	1 pc	50Ω	—	—	<b>31-5137-RFX</b>	3
	Crimp	Crimp	1.28(32.6)	.571(14.5)	.181(4.6)	C6	P1	D2	3 pc	50Ω	CTL-1	—	<b>36650-3RFX</b>	1
	Crimp	Press Fit	1.31(33.4)	.571(14.5)	.185(4.7)	C7	P1	D2	2 pc	50Ω	CTL-2	—	<b>31-5559-RFX</b>	2
	Crimp	Crimp	1.17(29.8)	.571(14.5)	.260(6.6)	C6	P1	D2	3 pc	50Ω	CTL-1	—	<b>31-321-RFX</b>	1
Plenum 58	Crimp	Crimp	1.17(29.8)	.571(14.5)	.260(6.6)	C6	P1	D2	3 pc	75Ω	CTL-1	—	<b>31-71008-RFX</b>	1
	Crimp	Press Fit	1.31(33.4)	.571(14.5)	.256(6.5)	C7	P1	D2	2 pc	50Ω	CTL-2	—	<b>31-5556-RFX</b>	2
	Clamp	Solder	1.07(27.2)	.571(14.5)	.256(6.5)	C8	P1	D2	—	50Ω	—	UG-260B	<b>31-212-RFX</b>	4
	SURETWIST®		1.48(37.6)	.571(14.5)	.224(5.7)	C9	P1	D2	1 pc	50Ω	—	—	<b>31-5136-RFX</b>	3
	QUICKTRIM®		1.04(26.5)	.571(14.5)	.250(6.4)	C10	P1	D2	—	50Ω	—	—	<b>31-4541-RFX*</b>	5
59, 62	Crimp	Crimp	1.17(29.8)	.571(14.5)	.260(6.6)	C6	P1	D2	3 pc	50Ω	CTL-1	—	<b>68175-5RFX</b>	1
	Crimp	Crimp	1.28(32.6)	.571(14.5)	.212(5.4)	C6	P1	D2	3 pc	50Ω	CTL-1	—	<b>68175-11RFX</b>	1
	Crimp	Press Fit	1.31(33.4)	.571(14.5)	.212(5.4)	C7	P1	D2	2 pc	50Ω	CTL-2	—	<b>31-5560-RFX</b>	2
	Crimp	Crimp	1.19(30.2)	.571(14.5)	.106(2.7)	C6	P1	D2	3 pc	50Ω	CTL-2	—	<b>31-315-RFX</b>	1
Plenum 59, 62	Crimp	Crimp	1.17(29.8)	.571(14.5)	.260(6.6)	C6	P1	D2	3 pc	50Ω	CTL-2	—	<b>31-242-RFX</b>	1
	Crimp	Crimp	1.19(30.2)	.571(14.5)	.106(2.7)	C6	P1	D2	3 pc	75Ω	CTL-2	—	<b>31-71013-RFX</b>	1
174, 188, 316	Crimp	Crimp	1.19(30.2)	.571(14.5)	.106(2.7)	C6	P1	D2	3 pc	50Ω	CTL-2	—	<b>31-321-10RFX</b>	1
179, 187	Crimp	Crimp	1.19(30.2)	.571(14.5)	.106(2.7)	C6	P1	D2	3 pc	50Ω	CTL-2	—	<b>31-321-10RFX</b>	1
Belden 8281	Crimp	Crimp	1.17(29.8)	.571(14.5)	.334(8.5)	C6	P1	D2	3 pc	50Ω	CTL-2	—	<b>31-321-10RFX</b>	1

■ 1/16" (1.6mm) length ■ end of clamp nut • accommodates cable diameter \* IBM 1836444; WANG 350-2075 ‡ For reference only. RFX™ connectors for commercial use only

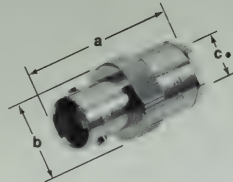
# RFX 50Ω & 75Ω BNC jacks, panel jacks & bulkhead jacks

Fig. 1



50Ω & 75Ω BNC 3 Piece Crimp Jacks  
**36800-RFX** for RG-58 (50Ω)  
**31-71009-RFX** for RG-59 (75Ω)  
**31-71014-RFX** for RG-179 (75Ω)

Fig. 2

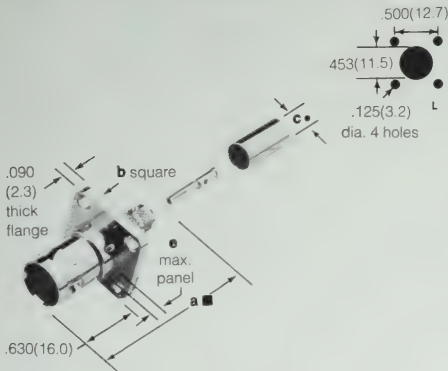


50Ω BNC Clamp Type Jacks  
**31-5-RFX** for RG-58  
**31-15-RFX** for RG-59

## RFX BNC CABLE JACKS • 50Ω & 75Ω • female contacts • 2-stud bayonet mating

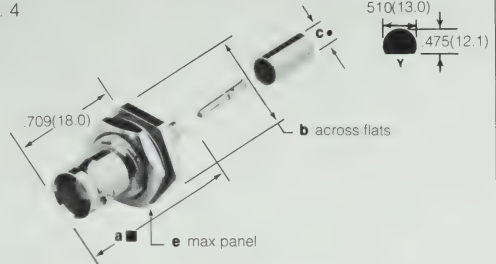
Cable RG/U	Cable Attachment		Dimensions, inches (millimeters)			Construction Notes				CTL Tool No.	UG Ref. Number‡	Amphenol RFX Number	Fig.
	Outer	Inner	a	b	c •	CAI	Plt.	Ins.	Imp.				
58, 141, 142	Crimp	Crimp	1.32(33.6)	.453(11.5)	.210(5.3)	C6	P1	D2	50Ω	CTL-1	—	<b>36800-RFX</b>	1
	Clamp	Solder	1.12(28.6)	.571(14.5)	.212(5.4)	C8	P1	D1	50Ω	—	UG-89B	<b>31-5-RFX</b>	2
59, 62, 140, 210	Crimp	Crimp	1.32(33.6)	.453(11.5)	.260(6.6)	C6	P1	D2	75Ω	CTL-1	—	<b>31-71009-RFX</b>	1
	Clamp	Solder	1.12(28.6)	.571(14.5)	.212(5.4)	C8	P1	D1	50Ω	—	UG-261B	<b>31-15-RFX</b>	2
179, 187	Crimp	Crimp	1.37(34.9)	.453(11.5)	.106(2.7)	C6	P1	D2	75Ω	CTL-2	—	<b>31-71014-RFX</b>	1

Fig. 3



75Ω BNC Crimp-Crimp Panel Jacks  
**31-71012-RFX** for RG-59  
**31-71017-RFX** for RG-179

Fig. 4



50Ω & 75Ω BNC Crimp-Crimp Bulkhead Jacks  
 Cables Connectors

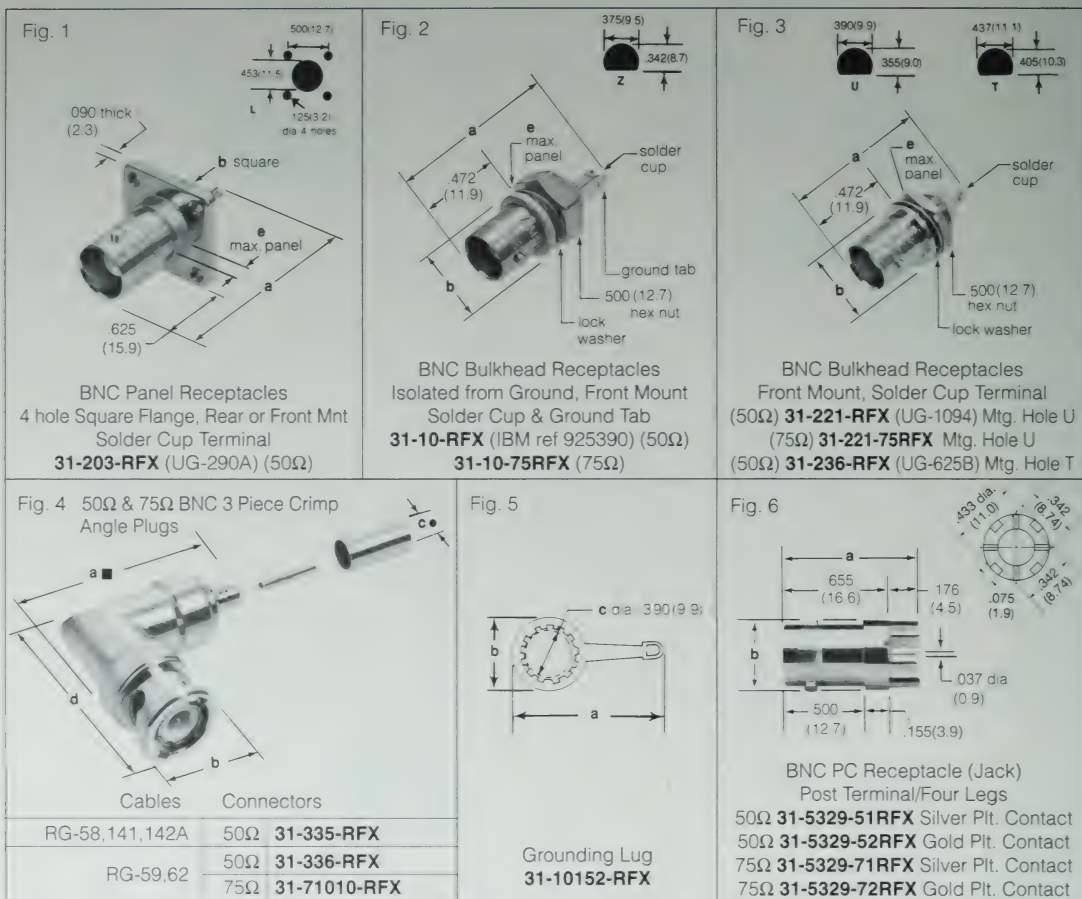
RG-58	<b>31-342-RFX</b>
RG-59	50Ω <b>31-343-RFX</b>
	75Ω <b>31-71011-RFX</b>
RG-174,316	<b>31-318-RFX</b>
RG-179	50Ω <b>31-245-RFX</b>
	75Ω <b>31-71016-RFX</b>

## RFX BNC PANEL JACKS & BULKHEAD JACKS • 50Ω & 75Ω • female contacts • 2-stud bayonet mating

Cable RG-U	Conn. Type	Cable Attachment		Dimensions, inches (millimeters)				CAI	Plt.	Ins.	Imp.	Mtg Hole	CTL Tool No.	Amphenol RFX Number	Fig.
		Outer	Inner	a	b	c •	e								
58, 141, 142	Bulk Jack	Crimp	Crimp	1.38(35.1)	.687(17.5)	.210(5.3)	.138(3.5)	C6	P1	D2	50Ω	Y	CTL-1	<b>31-342-RFX</b>	4
	Panel Jack	Crimp	Crimp	1.33(33.8)	.687(17.5)	.260(6.6)	.187(4.7)†	C6	P1	D2	75Ω	Y	CTL-1	<b>31-71012-RFX</b>	3
59, 62, 140, 210	Bulk Jack	Crimp	Crimp	1.38(35.1)	.687(17.5)	.260(6.6)	.138(3.5)	C6	P1	D2	50Ω	Y	CTL-1	<b>31-343-RFX</b>	4
											75Ω	Y	CTL-1	<b>31-71011-RFX</b>	4
174, 188, 316	Bulk Jack	Crimp	Crimp	1.43(36.4)	.687(17.5)	.106(2.7)	.138(3.5)	C6	P1	D2	50Ω	Y	CTL-2	<b>31-318-RFX</b>	4
	Panel Jack	Crimp	Crimp	1.38(35.1)	.687(17.5)	.106(2.7)	.187(4.7)†	C6	P1	D2	75Ω	L	CTL-2	<b>31-71017-RFX</b>	3
179, 187	Bulk Jack	Crimp	Crimp	1.43(36.4)	.687(17.5)	.106(2.7)	.138(3.5)	C6	P1	D2	50Ω	Y	CTL-2	<b>31-245-RFX</b>	4
											75Ω	Y	CTL-2	<b>31-71016-RFX</b>	4

■ to end of crimp ferrule • accommodates cable diameter ‡ For reference only. RFX™ connectors are for commercial use only  
 † max. panel when rear mounted through panel

# RFX 50Ω & 75Ω BNC receptacles & angle plugs



## RFX BNC PANEL, BULKHEAD & PCB RECEPTACLES • 50Ω & 75Ω • 2-stud bayonet mating • female contacts

Description	Terminal Type	Dimensions, inches (millimeters)				Notes		MTG Hole	UG Ref. Number†	Amphenol RFX Number	Fig.
		a	b	e		Plt.	Ins. Imp.				
Panel Receptacle 4 hole .687" (17.5mm) Square Flange, Front or Rear Mount	Solder Cup	1.05 (26.7)	.687 (17.5)	.187 (4.7)☆	P1	D2	50Ω	L	UG-290A	<b>31-203-RFX</b>	1
Bulkhead Receptacle, Front Mount, Isolated From Panel, White Molded Thermoplastic Ins	Solder Cup	1.19 (30.2)	.500 (12.7)	.187 (4.8)	P2	D7	50Ω	Z	—	<b>31-10-RFX▲</b>	2
	Ground Tab				P2	D7	75Ω	Z	—	<b>31-10-75RFX▲</b>	2
Bulkhead Receptacle, Front Mount, 1.25" (3.2mm) max. panel	Solder Cup	1.06 (27.0)	.500 (12.7)	.125 (3.2)	P2	D1	50Ω	U	UG-1094	<b>31-221-RFX†</b>	3
		1.05 (26.7)	.500 (12.7)	.138 (3.5)	P1	D2	75Ω	U	—	<b>31-221-75RFX†</b>	3
		1.06 (27.0)	.500 (12.7)	.125 (3.2)	P2	D1	50Ω	T	UG-625B	<b>31-236-RFX†</b>	3
		1.16 (29.4)	.578 (14.7)	—	P4	—	—	—	—	<b>31-10152-RFX</b>	5
PC Receptacle (Jack) Post Terminal/Four Legs	Blunt Post	.831 (21.1)	.433 (11.0)	—	P2	D3	50Ω	F	—	<b>31-5329-51RFX</b>	6
					P1	D3	50Ω	F	—	<b>31-5329-52RFX</b>	
					P2	D3	75Ω	F	—	<b>31-5329-71RFX</b>	
					P1	D3	75Ω	F	—	<b>31-5329-72RFX</b>	

## RFX BNC ANGLE PLUGS • 50Ω & 75Ω • 2-stud bayonet mating • male contacts

Cable RG-U	Cable Attachment		Dimensions, inches (millimeters)				Construction Notes			CTL	Amphenol	Fig.	
	Outer	Inner	a ■	b	c ●	d	CAI	Plt.	Ins	Imp.	Tool No.		RFX Number
58,141,142A	Crimp	Crimp	1.60(40.7)	.571(14.5)	.210(5.3)	1.07(27.3)	C6	P1	D2	50Ω	CTL-1	31-335-RFX	4
59,62	Crimp	Crimp	1.60(40.7)	.571(14.5)	.260(6.6)	1.07(27.3)	C6	P1	D2	50Ω	CTL-1	31-336-RFX	4
										75Ω	CTL-1	31-71010-RFX	4

† If a ground wire to circuit inside the panel is needed, use lug 31-10152

▲ Recommended torque value 12 lb-in. max. (IBM ref. 925390)

\* Wang ref. 350-1036 IBM ref. 1620666

■ to end of crimp ferrule

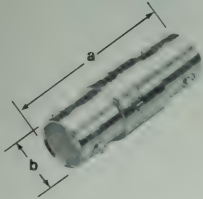
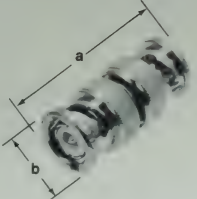
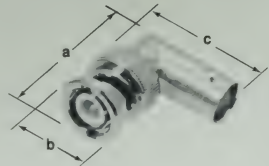
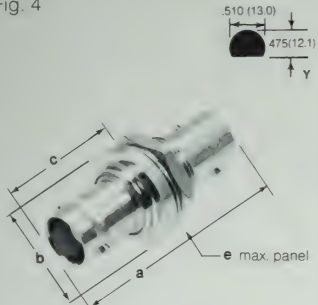
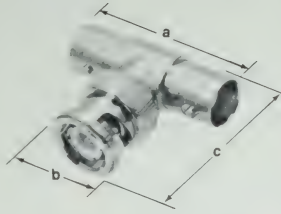
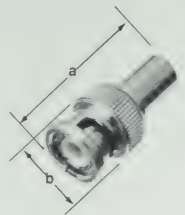
‡ For reference only. RFX™ connectors are for commercial use only.

☆ max. panel when rear mounted through panel

● accommodates cable dia.



## RFX BNC adapters and resistor terminated caps

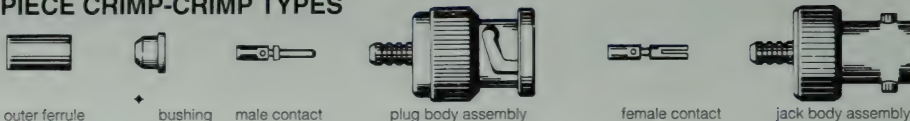
<p>Fig. 1</p>  <p>BNC Straight Adapter Jack-Jack <b>31-219-RFX</b> (50Ω)</p>	<p>Fig. 2</p>  <p>BNC Straight Adapters Plug-Plug <b>31-218-RFX</b> (50Ω) <b>31-218-75RFX</b> (75Ω)</p>	<p>Fig. 3</p>  <p>BNC Angle Adapter Jack-Plug <b>31-9-RFX</b> (50Ω)</p>
<p>Fig. 4</p>  <p>BNC Bulkhead Adapter Jack-Jack <b>31-220G-RFX</b> Gasketed (50Ω) <b>31-220N</b> Not-gasketed (50Ω) <b>31-220N-75RFX</b> Not-gasketed (75Ω)</p>	<p>Fig. 5</p>  <p>BNC Tee Adapter Jack-Plug-Jack <b>31-208-RFX</b> (50Ω)</p>	<p>Fig. 6</p>  <p>BNC Resistor Term. Male Cap <b>46650-51RFX</b> 50Ω <b>46650-75RFX</b> 75Ω <b>46650-93RFX</b> 93Ω</p>

### RFX BNC ADAPTERS & RESISTOR TERMINATED CAPS

Description		Imp.	Dimensions, inches (millimeters)				Notes		MTG Hole	UG Ref. Number‡	Amphenol RFX Number	Fig.
			a	b	c	e	Plt.	Ins.				
Straight	Jack-Jack	50Ω	1.28(32.5)	.437(11.1)	—	—	P2	D1	—	UG-914	<b>31-219-RFX</b>	1
	Plug-Plug	50Ω	1.25(31.8)	.562(14.3)	—	—	P2	D1	—	UG-491A	<b>31-218-RFX</b>	2
	Plug-Plug	75Ω									<b>31-218-75RFX</b>	
Angle	Jack-Plug	50Ω	1.06(27.0)	.562(14.3)	1.02(25.8)	—	P2	D1	—	UG-306	<b>31-9-RFX▲</b>	3
Bulkhead, Gasketed	Jack-Jack	50Ω	1.56(39.6)	.689(17.5)	.681(17.3)	.295(7.5)	P1	D2	Y	—	<b>31-220G-RFX</b>	4
Bulkhead, Not Gasketed	Jack-Jack	50Ω		.610(15.5)	.492(12.5)	.216(5.5)	P1	D2	Y	—	<b>31-220N-RFX</b>	4
	Jack-Jack	75Ω									<b>31-220N-75RFX</b>	4
Tee	Jack-Plug-Jack	50Ω	1.30(33.0)	.571(14.5)	1.04(26.3)	—	P2	D2	—	UG-274A	<b>31-208-RFX</b>	5
Male Cap, Resistor Terminated, 5% 1 watt		50Ω									<b>46650-51RFX</b>	6
		75Ω	1.11(28.1)	.571(14.5)	—	—	P2	D2	—	—	<b>46650-75-RFX</b>	6
		93Ω									<b>46650-93-RFX</b>	6

# BNC assembly instructions - C6 RFX

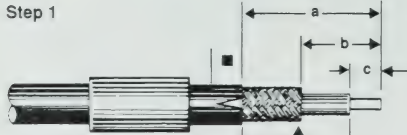
## 3 PIECE CRIMP-CRIMP TYPES



♦ This part is used only with RG-62 cable

Amphenol RFX Number	Connector Type	Cable RG-U	Hex Crimp Data			Stripping Dimensions, inches (mm)		
			Cavity for Contact	Cavity for Outer Ferrule	CTL Series Tool Number	a	b	c
36650-3RFX	BNC Plug	Plenum 58	.068(1.7)	.213(5.4)	CTL-1	.630(16.0)	.303(7.7)	.157(4.0)
36800-RFX	BNC Jack	58, 141, 142A	.068(1.7)	.213(5.4)	CTL-1	.630(16.0)	.303(7.7)	.157(4.0)
68175-5RFX	BNC Plug	59 (20 AWG CC)	.068(1.7)	.255(6.5)	CTL-1	.630(16.0)	.303(7.7)	.157(4.0)
68175-11RFX	BNC Plug	Plenum 59, 62	.068(1.7)	.255(6.5)	CTL-1	.630(16.0)	.303(7.7)	.157(4.0)
31-242-RFX	BNC Plug	179, 187	.068(1.7)	.178(4.5)	CTL-2	.590(15.0)	.323(8.2)	.118(3.0)
31-245-RFX	BNC Bulkhead Jack	179, 187	.068(1.7)	.178(4.5)	CTL-2	.630(16.0)	.362(9.2)	.157(4.0)
31-315-RFX	BNC Plug	174, 188, 316	.068(1.7)	.178(4.5)	CTL-2	.590(15.0)	.323(8.2)	.118(3.0)
31-318-RFX	BNC Bulkhead Jack	174, 188, 316	.068(1.7)	.178(4.5)	CTL-2	.630(16.0)	.362(9.2)	.157(4.0)
31-320-RFX	BNC Plug	58, 141, 142A	.068(1.7)	.213(5.4)	CTL-1	.630(16.0)	.303(7.7)	.157(4.0)
31-321-RFX	BNC Plug	59, 62	.068(1.7)	.255(6.5)	CTL-1	.630(16.0)	.303(7.7)	.157(4.0)
31-321-10RFX	BNC Plug	B8281	.068(1.7)	.324(8.2)	CTL-2	.630(16.0)	.303(7.7)	.157(4.0)
31-335-RFX	BNC Angle Plug	58, 141, 142A	.068(1.7)	.213(5.4)	CTL-1	.677(17.2)	.350(8.9)	.157(4.0)
31-336-RFX	BNC Angle Plug	59, 62	.068(1.7)	.255(6.5)	CTL-1	.677(17.2)	.350(8.9)	.157(4.0)
31-342-RFX	BNC Bulkhead Jack	58, 141, 142A	.068(1.7)	.213(5.4)	CTL-1	.689(17.5)	.362(9.2)	.157(4.0)
31-343-RFX	BNC Bulkhead Jack	59, 62	.068(1.7)	.255(6.5)	CTL-1	.689(17.5)	.362(9.2)	.157(4.0)
31-5558-RFX	BNC Plug	6	.068(1.7)	.324(8.2)	CTL-2	.630(16.0)	.303(7.7)	.157(4.0)
31-71000-RFX	75Ω BNC Plug	6	.068(1.7)	.324(8.2)	CTL-2	.630(16.0)	.303(7.7)	.157(4.0)
31-71008-RFX	75Ω BNC Plug	59, 62	.068(1.7)	.255(6.5)	CTL-1	.630(16.0)	.303(7.7)	.157(4.0)
31-71009-RFX	75Ω BNC Jack	59, 62	.068(1.7)	.255(6.5)	CTL-1	.630(16.0)	.303(7.7)	.157(4.0)
31-71010-RFX	75Ω BNC Angle Plug	59, 62	.068(1.7)	.255(6.5)	CTL-1	.677(17.2)	.350(8.9)	.157(4.0)
31-71011-RFX	75Ω BNC Bulkhead Jack	59, 62	.068(1.7)	.255(6.5)	CTL-1	.689(17.5)	.362(9.2)	.157(4.0)
31-71012-RFX	75Ω BNC Panel Jack	59, 62	.068(1.7)	.255(6.5)	CTL-1	.669(17.0)	.343(8.7)	.157(4.0)
31-71013-RFX	75Ω BNC Jack	179, 187	.068(1.7)	.178(4.5)	CTL-2	.590(15.0)	.323(8.2)	.118(3.0)
31-71014-RFX	75Ω BNC Jack	179, 187	.068(1.7)	.178(4.5)	CTL-2	.571(14.5)	.303(7.7)	.157(4.0)
31-71016-RFX	75Ω BNC Bulkhead Jack	179, 187	.068(1.7)	.178(4.5)	CTL-2	.630(16.0)	.362(9.2)	.157(4.0)
31-71017-RFX	75Ω BNC Panel Jack	179, 187	.068(1.7)	.178(4.5)	CTL-2	.579(14.7)	.311(7.9)	.157(4.0)

### Step 1



- ▲ For RG-174, 179, 187, 188, 316/U cables only, slit jacket back .079" (2.0mm) as shown. Before attaching center contact, slide metal spacer/TFE sleeve (not shown) over cable dielectric and under braid. The center contact should butt against the dielectric and TFE sleeve.

### Step 1

Slide outer ferrule onto cable as shown. Strip cable jacket, braid, and dielectric to dimensions in table above. [for RG-62 cable, trim an additional .039" (1.0mm) of insulation off center conductor and add bushing.] All cuts are to be sharp and square. Important: Do not nick braid, dielectric, and center conductor.

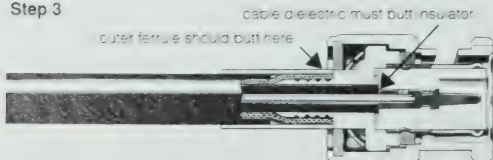
### Step 2



### Step 2

Flare slightly end of cable braid as shown to facilitate insertion of inner ferrule. Important: Do not comb out braid. ▲ Place contact on cable center conductor so that it butts against cable dielectric. Crimp contact in place using Die Set Cavity indicated in table above.

### Step 3



### Step 3

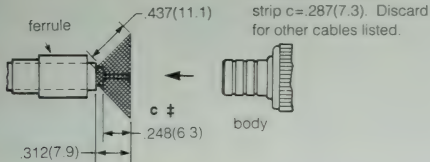
Install cable assembly into body assembly so that inner ferrule portion slides under braid. Push cable assembly forward until cable dielectric butts against connector insulator. Slide outer ferrule over braid and up against connector body. Crimp outer ferrule using Die Set Cavity specified in table above.

# BNC assembly instructions - C7 RFX

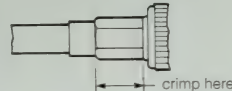
## 2 PIECE SINGLE CRIMP TYPES

Amphenol RFX Number	Connector Type	Cable RG-U	Cavity for Outer Ferrule	CTL Series Tool Number	Stripping Dimensions, inches (mm)		
					a	b ■	c
31-5556-RFX	BNC Plug	59,62	.324(8.2)	CTL-2	.312(7.9)	.437(11.1)	.248(6.3)
31-5557-RFX	BNC Plug	58					
31-5559-RFX	BNC Plug	Plenum 58					
31-5560-RFX	BNC Plug	Plenum 59,62					

### Step 1



### Step 2

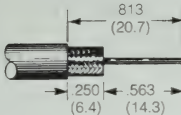


■ b dim. is length of braid, not length of cut

# BNC SURETWIST® assembly instructions - C9 RFX

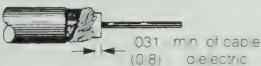
Amphenol RFX Number	Connector Type	Cable RG-U
31-5137-RFX	BNC Plug	58
31-5136-RFX	BNC Plug	59

### Step 1



Strip cable as shown. Take care not to nick center conductor or outer braid.

### Step 2



Twist outer braid in a clockwise direction so that at least 1/32" of cable dielectric is bared, and braid is left flat. (Stray or loose braid can cause shorts.)

### Step 3



Gently insert center conductor into back end of connector, "feeling" it into the guide hole. (If center conductor is NOT properly in place, about 1/8" of center conductor will show at the back end. Reinsert until cable dielectric reaches position shown in illustration.)

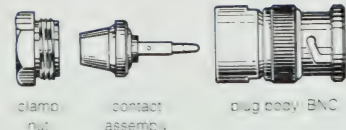
### Step 4



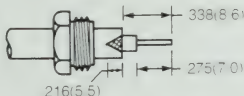
Push the cable firmly home (as far as possible). Then screw the connector onto the cable in a clockwise direction until it stops. Assembly is complete.

# BNC QUICKTRIM® assembly instructions - C10 RFX

Amphenol RFX Number	Connector Type	Cable RG-U	Center Contact Attachment	
			Hex Size	RFX Tool Number
31-4541-RFX	BNC Plug	59, 59A, 62, 62A	.068(1.7)	CTL-1



### Step 1



Slide clamp nut over cable. Strip cable to dimension shown. Cut braid and dielectric square. Do not nick center conductor. Slit jacket back .216"(5.5mm) as shown.

### Step 2



Slide contact assembly under braid and jacket until braid butts as shown. Use caution that braid slides over contact assembly and not inside of it. Be sure center conductor is visible through side hole of contact. Crimp contact to conductor using Amphenol crimp tool CTL-1. .068"(1.7mm) cavity or solder contact to conductor.

### Step 3



Insert into connector body. Tighten clamp nut to a torque of 35 lbf-in. (4N·m).

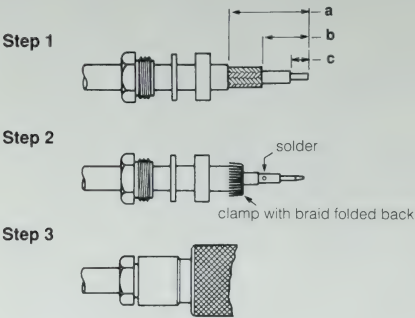


# BNC assembly instructions - C8 RFX

## CLAMP - SOLDER TYPES

Amphenol RFX Number	Connector Type	Cable RG-U	Attachment Data		Stripping Dimensions, inches (mm)		
			Inner	Outer	a	b	c
6775-RFX	BNC Plug	8,213,214,	Solder	Clamp Type 1	.490(12.4)	.140(3.5)	.200(5.1)
31-2-RFX	BNC Plug	58,141,142A	Solder	Clamp Type 1	.315(8.0)	.157(4.0)	.118(3.0)
31-5-RFX	BNC Jack	58,141,142A	Solder	Clamp Type 2	.315(8.0)	.138(3.5)	.138(3.5)
31-15-RFX	BNC Jack	59,62	Solder	Clamp Type 2	.315(8.0)	.138(3.5)	.138(3.5)
31-212-RFX	BNC Plug	59,62	Solder	Clamp Type 1	.315(8.0)	.157(4.0)	.118(3.0)

### Clamp Type 1

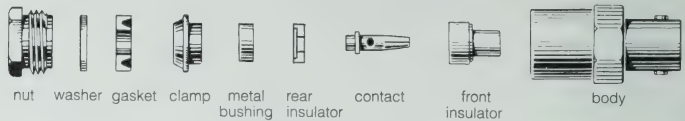
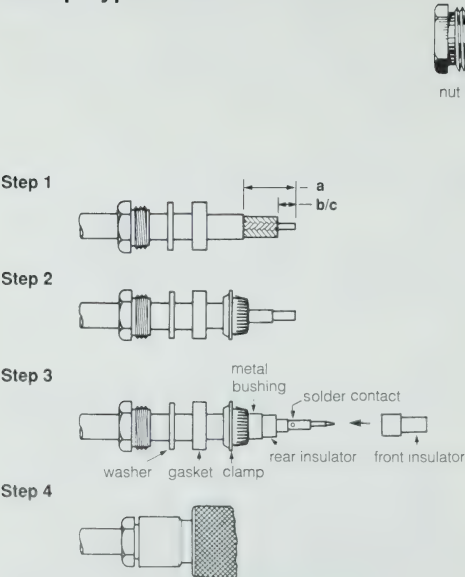


**Step 1** Place nut, washer and gasket over cable. Strip cable to dimensions shown in table above.

**Step 2** Place clamp over braid and push back against cable jacket. Fold back braid wires as shown. Tin center conductor. Solder on contact.

**Step 3** Insert cable and parts into connector body. Tighten nut.

### Clamp Type 2



**Step 1** Place nut, washer and gasket over cable. Strip jacket to dimensions shown in table above. Tin center conductor.

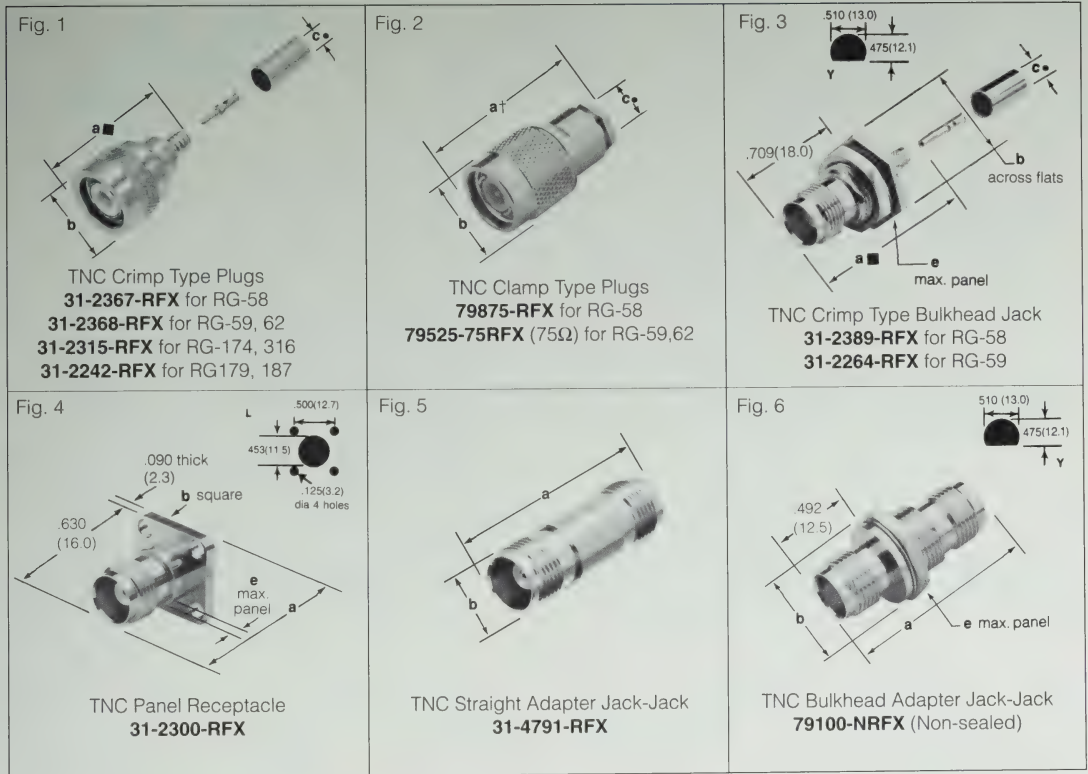
**Step 2** Place clamp over braid as shown, and push back against cable jacket. Fold back braid wires as shown.

**Step 3** Slide on metal bushing, rear insulator and contact. These parts must butt, as shown. Solder contact to cable center conductor. Slide front insulator over contact, as shown.

**Step 4** Insert cable and parts into connector body. Tighten nut.

## RFX 50Ω & 75Ω TNC coaxial connectors

Amphenol® RFX™ TNC connectors are 7/16-28 threaded coupling units with 50Ω or 75Ω impedance. Frequency range is DC-11GHz with voltage rating of 500 V peak. See specifications, page 26.



### RFX TNC PLUGS, BULKHEAD JACKS, ADAPTERS & RECEPTACLES

Cable RG-U	Conn. Type	Cable Attachment		Dimensions, inches (millimeters)				Notes			Mtg Hole	CTL Tool No.	Amphenol RFX Number	Fig.
		Outer	Inner	a	b	c •	e	CAI	PIL	Ins.				
58, 141, 142A	Plug	Crimp	Crimp	1.17(29.8)■	.571(14.5)	.210(5.3)	—	C11	P1	D2	—	CTL-1	<b>31-2367-RFX</b>	1
	Plug	Clamp	Solder	1.07(27.2)†	.571(14.5)	.212(5.4)	—	C12	P1	D2	—	—	<b>79875-RFX</b>	2
	Bulk Jack	Crimp	Crimp	1.38(35.1)■	.687(17.5)	.210(5.3)	.138(3.5)	C11	P1	D2	Y	CTL-1	<b>31-2389-RFX</b>	3
59, 62	Plug	Crimp	Crimp	1.17(29.8)■	.571(14.5)	.260(6.6)	—	C11	P1	D2	—	CTL-1	<b>31-2368-RFX</b>	1
	Plug	Clamp	Solder	1.07(27.2)†	.571(14.5)	.256(6.5)	—	C12	P1	D2	—	(75Ω)	<b>79525-75RFX</b>	2
	Bulk Jack	Crimp	Crimp	1.38(35.1)■	.687(17.5)	.260(6.6)	.138(3.5)	C11	P1	D2	Y	CTL-1	<b>31-2264-RFX</b>	3
174, 188, 316	Plug	Crimp	Crimp	1.19(30.2)■	.571(14.5)	.106(2.7)	—	C11	P1	D2	—	CTL-2	<b>31-2315-RFX</b>	1
179, 187	Plug	Crimp	Crimp	1.19(30.2)■	.571(14.5)	.106(2.7)	—	C11	P1	D2	—	CTL-2	<b>31-2242-RFX</b>	1
Panel Receptacle		Solder Cup		1.05(26.07)	.687(17.5)	—	.187(4.7)	—	P2	D1	L	—	<b>31-2300-RFX</b>	4
Adapter Jack-Jack				1.28(32.5)	.433(11.0)	—	—	—	P1	D2	—	—	<b>31-4791-RFX</b>	5
Bulkhead Adapter Jack-Jack				1.28(32.5)	.610(15.5)	—	.216(5.5)	—	P1	D2	Y	—	<b>79100-NRFX</b>	6

■ to end of crimp ferrule • accommodates cable diameter † to end of clamp nut ‡ RFX™ connectors for commercial use only.

# TNC assembly instructions-C11 RFX

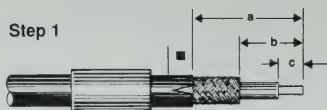
## CRIMP TYPES



✦ This part is used only with RG-62 cable

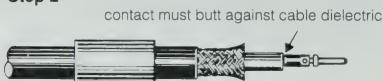
Amphenol Number	Connector Type	Cable RG/U	Hex Crimp Data			Stripping Dimensions, inches (mm)		
			Cavity for Contact	Cavity for Outer Ferrule	CTL Series Tool No.	a	b	c
31-2242-RFX	TNC Plug	179, 187	.068(1.7)	.178(4.5)	CTL-2	.590(15.0)	.323(8.2)	.118(3.0)
31-2264-RFX	TNC Bulkhead Jack	59, 62	.068(1.7)	.255(6.5)	CTL-1	.689(17.5)	.362(9.2)	.157(4.0)
31-2315-RFX	TNC Plug	174, 188, 316	.068(1.7)	.178(4.5)	CTL-2	.590(15.0)	.323(8.2)	.118(3.0)
31-2367-RFX	TNC Plug	58, 141, 142A	.068(1.7)	.213(5.4)	CTL-1	.630(16.0)	.303(7.7)	.157(4.0)
31-2368-RFX	TNC Plug	59, 62	.068(1.7)	.255(6.5)	CTL-1	.630(16.0)	.303(7.7)	.157(4.0)
31-2389-RFX	TNC Bulkhead Jack	58, 141, 142A	.068(1.7)	.213(5.4)	CTL-1	.689(17.5)	.362(9.2)	.157(4.0)

### Step 1

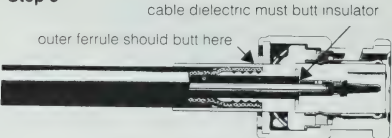


- For RG-174, 179, 187, 188, 316/U cables only, slit jacket back .079"(2.0mm) as shown. Before attaching center contact, slide Teflon sleeve (not shown) over cable dielectric. The center contact should butt against the dielectric and Teflon sleeve.

### Step 2



### Step 3



- Step 1** Slide outer ferrule onto cable as shown. Strip cable jacket, braid, and dielectric to dimensions in table above. [For RG-62, 71 and 210/U cable, trim an additional .039"(1.0 mm) of insulation off center conductor and add bushing.] All cuts are to be sharp and square. Important: Do not nick braid, dielectric, and center conductor

- Step 2** Flare slightly end of cable braid as shown to facilitate insertion of inner ferrule. Important: Do not comb out braid. Place contact on cable center conductor so that it butts against cable dielectric. Center conductor should be visible through inspection hole in contact. Crimp or solder the contact in place as follows:

**Crimp Method.** Use Die Set Cavity indicated in table above.

**Solder Method.** Tin center conductor avoiding excessive heat. Soft solder contact to cable center conductor. Do not get any solder on outside surfaces of contact. Avoid excessive heat to prevent swelling of dielectric.

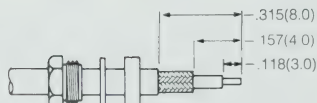
- Step 3** Install cable assembly into body assembly so that inner ferrule portion slides under braid. Push cable assembly forward until cable dielectric butts against connector insulator. Slide outer ferrule over braid and up against connector body. Crimp outer ferrule using Die Set Cavity specified in table above.

# TNC assembly instructions-C12 RFX

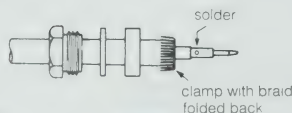
## CLAMP TYPES



### Step 1



### Step 2



### Step 3



Amphenol RFX Number	Connector Type	Cable RG/U	Stripping Dimensions, In.(mm)		
			a	b	c
79875-RFX	TNC Plug	58, 141, 142A	.315(8.0)	.157(4.0)	.118(3.0)
79525-75RFX	75Ω TNC Plug	59, 62	.315(8.0)	.157(4.0)	.118(3.0)

- Step 1** Place nut, washer and gasket over cable and strip cable to dimensions shown in table above.

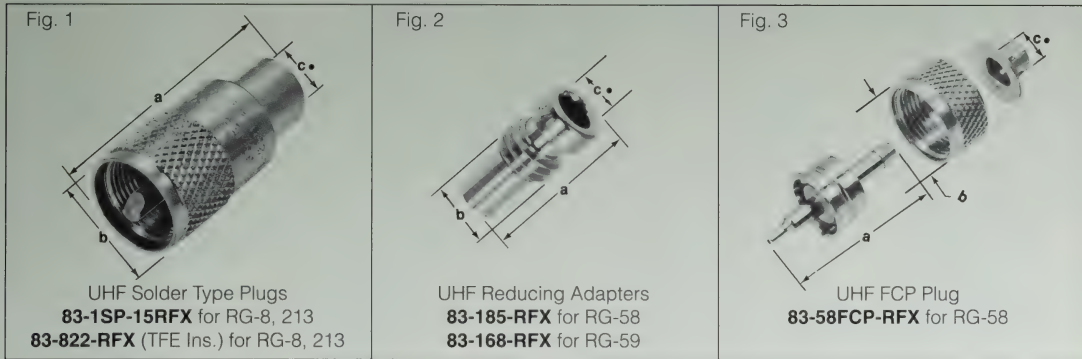
- Step 2** Place clamp over braid and push back against cable jacket. Fold back braid wires as shown, trim to proper length [.125" (3.2mm)] and form over clamp as shown. Tin center conductor. Solder contact to center conductor.

- Step 3** Insert cable and parts into connector body. Tighten nut.



## RFX UHF coaxial connectors

Amphenol® RFX™ UHF connectors are low cost general purpose units designed to operate satisfactorily DC to 300 MHz with voltage rating of 500 V peak. See specifications, page 26.

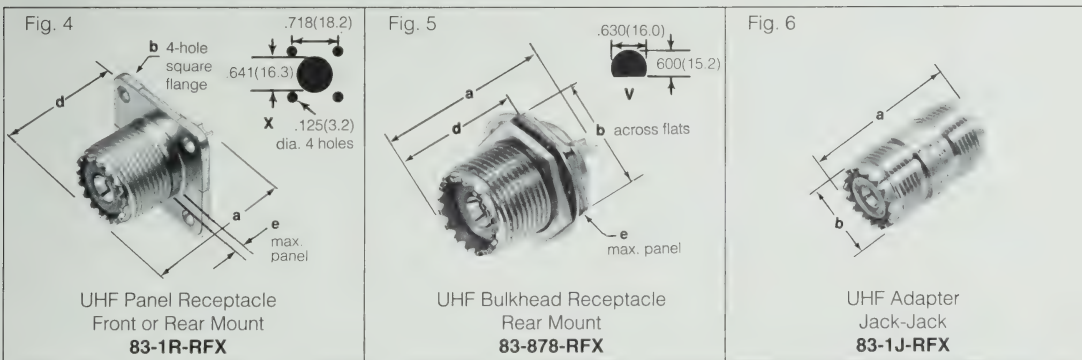


### RFX UHF CABLE PLUGS • male contacts

Cable RG-U	Cable Attachment		Dimensions, inches (millimeters)			Construction Notes				Mil. Ref. Number†	Amphenol Number	Fig.
	Outer	Inner	a	b	c •	CAI	Plt.	Ins.	Other			
<b>8, 9, 11, 13, 63, 87A, 149, 213, 214, 216, 225</b>	Solder	Solder	1.50(38.1)	.750(19.1)	.420(10.7)	C1	P2	D5	IBM 460147	PL-259	<b>83-1SP-15RFX</b>	1
	Solder	Solder	1.53(38.8)	.716(18.2)	.420(10.7)	C1	P2	D1	TFE Insulation	PL-259	<b>83-822-RFX</b>	1
<b>58, 141, 142</b>	FCP	Pliers	1.16(29.4)	.716(18.2)	.224(5.7)	C2	P2	D4	No Soldering	—	<b>83-58FCP-RFX</b>	3

### RFX REDUCING ADAPTERS • for use in P/Ns 83-1SP-15RFX, 83-822-RFX – adapts plugs to smaller cables

Description	Dimensions, inches (millimeters)			CAI	Plt.	UG Ref. Number‡	Amphenol Number	Fig.
	a	b	c •					
For use on RG-58, 141, 142 Cable	1.00(25.4)	.437(11.1)	.209(5.3)	C1	P3	UG-175	<b>83-185-RFX</b>	2
For use on RG-59, 62, 71, 140, 210 Cable	1.00(25.4)	.437(11.1)	.256(6.5)	C1	P3	UG-176	<b>83-168-RFX</b>	2



### RFX UHF RECEPTACLES & ADAPTERS • female contacts

Description	Terminal Type	Dimensions, inches (millimeters)				Plt.	Ins.	MTG Hole	Mil. Ref. Number‡	Amphenol Number	Fig.
		a	b	d	e						
4-hole Square Flange Panel Type (J)	Solder Cup	1.06(27.0)	1.00(25.4)	.553(14.0)	.187(4.7)†	P2	D3	X	SO-239	<b>83-1R-RFX*</b>	4
Rear Mount Bulkhead Type (J)	Solder Cup	1.06(27.0)	.750(19.1)	.590(15.0)	.093(2.4)	P2	D3	V	—	<b>83-878-RFX</b>	5
Straight Adapter Jack-Jack	—	1.12(28.6)	.625(15.9)	—	—	P2	D6	—	PL-258	<b>83-1J-RFX</b>	6

\* accommodates cable diameter ‡ for reference only. RFX™ connectors are for commercial use only  
† max. panel when rear mounted through panel

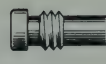
★ IBM ref. 317228

# UHF assembly instructions-C1 RFX

## UG STANDARD SOLDER TYPE



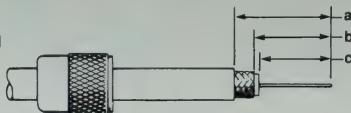
coupling ring

83-168-RFX or 83-185-RFX  
reducing adapter  
(when required)

plug sub-assembly

Amphenol RFX Number	Connector Type	Cable RG-U	Attachment Data		Stripping Dims. inches (mm)		
			Outer	Inner	a	b	c
83-1SP-75RFX	UHF Plug	8,9,11,13,63,87A	Solder	Solder	1.25(31.8)	.687(17.4)	.625(15.9)
83-822-RFX	UHF Plug	149,213,214,216,225	Solder	Solder	1.13(28.6)	.687(17.4)	.625(15.9)

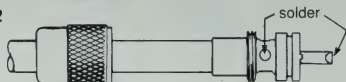
### Step 1



### Step 1

Slide coupling ring on cable. Cut end of cable even and strip jacket, braid and dielectric to dimensions shown in table. All cuts are to be sharp and square. Do not nick braid, dielectric or center conductor. Tin exposed center conductor and braid, avoiding excessive heat.

### Step 2



### Step 2

Screw the plug sub-assembly on cable. Solder assembly to braid through solder holes, making a good bond between braid and shell. Solder conductor to contact. Do not use excessive heat.

### Step 3



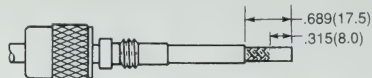
### Step 3

For final assembly, move coupling ring forward and screw in place on plug sub-assembly.

## FOR PLUGS 83-1SP-15-RFX, 83-822-RFX, USING 83-168-RFX OR 83-185-RFX REDUCING ADAPTERS

Amphenol RFX Number	Connector Type	Cable RG-U	Attachment Data		Stripping Dims. inches (mm)		
			Outer	Inner	a	b	c
83-168-RFX	Reducing Adapter	59	Solder	Solder	.689(17.5)	.315(8.0)	.551(14.0)
83-185-RFX	Reducing Adapter	58	Solder	Solder	.689(17.5)	.315(8.0)	.551(14.0)

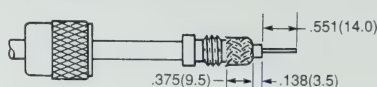
### Step 1



### Step 1

Slide coupling ring and adapter on cable. Cut end of cable even. Strip jacket and braid to dimensions shown.

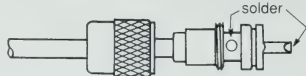
### Step 2



### Step 2

Position adapter flush with cable jacket. Fan braid slightly and fold back over body of adapter as shown. Bare conductor to dimension shown. Tin exposed center conductor and braid, avoiding excessive heat.

### Step 3



### Step 3

Screw plug sub-assembly on adapter. Solder braid to shell through solder holes, making good bond between braid and shell. Solder conductor to contact. Do not use excessive heat.

### Step 4

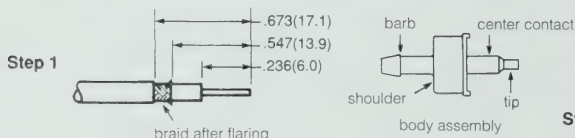


### Step 4

For final assembly, screw coupling ring on plug sub-assembly.

# UHF assembly instructions-C2 RFX

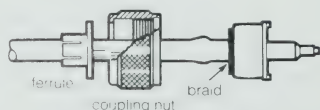
## FCP™ TERMINATION FOR PLUG 83-58FCP-RFX ON RG-58



### Step 1

Strip cable to dimensions shown

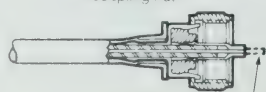
### Step 2



### Step 2

Slide ferrule and coupling nut over cable. Flair braid slightly. Insert body under flared braid until shoulder is against cable jacket.

### Step 3

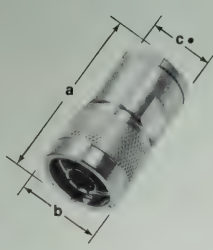
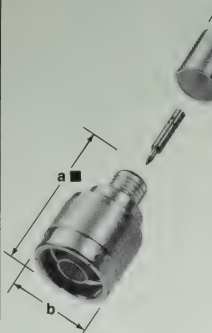

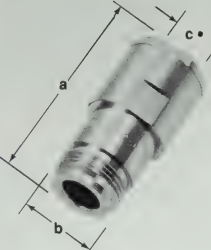


### Step 3

Slide nut onto body. Grasp cable. Push ferrule over barb and up against body. Crimp tip of center contact with pliers or, if you prefer, solder. Then trim center conductor.

## RFX Type N coaxial connectors

Amphenol® RFX™ Type N connectors are 5/8-24 threaded coupling units with 50  $\Omega$  impedance. They are designed to operate DC-11GHz with a voltage rating of 1,500 V peak. See specifications, page 26.

<p>Fig. 1</p>  <p>Type N Clamp-Solder Plugs  <b>82-202-RFX</b>  for RG-8,213,214  <b>34025-RFX</b> for RG-58  <b>34525-75RFX</b> (75<math>\Omega</math>)  for RG-59,62</p>	<p>Fig. 2</p>  <p>Type N Crimp-Crimp Plugs  <b>82-5375-RFX</b> for RG-58  <b>82-4426-11RX</b>  for Ethernet® Cables  and for RG-8,213,214</p>	<p>Fig. 3</p>  <p>Type N Crimp-Crimp Jacks  <b>82-5376-RFX</b>  for RG-58,141,142A  <b>82-4429-RFX</b>  for Ethernet® Cables  and for RG-8,213,214</p>	<p>Fig. 4</p>  <p>Type N Clamp-Solder Jacks  <b>82-63-RFX</b>  for RG-8,213,214  <b>35025-RFX</b>  for RG-58,141,142A  <b>36500-75RFX</b> (75<math>\Omega</math>)  for RG-59,62</p>
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### RFX Type N CABLE PLUGS • male contacts

Cable RG-/U	Cable Attachment		Dimensions, inches (millimeters)			Construction Notes				UG Ref. Number†	Amphenol RFX Number	Fig.
	Outer	Inner	a	b	c •	CAI	Pit.	Ins.	CTL Tool No.			
8, 9, 144, 165, 213 214, 216, 225	Clamp	Solder	1.50(38.1)	.827(21.0)	.437(11.1)	C3	P1	D1	—	UG-21D	82-202-RFX	1
	Crimp	Crimp	1.48(37.7) ■	.827(21.0)	.437(11.1)	C4	P1	D1	CTL-3	—	82-4426-11RFX	2
58, 141, 142A	Clamp	Solder	1.31(33.2)	.827(21.0)	.212(5.4)	C3	P1	D1	—	UG-536B	34025-RFX	1
	Crimp	Crimp	1.36(34.6) ■	.827(21.0)	.210(5.3)	C4	P1	D1	CTL-3	—	82-5375-RFX	2
59,62	Clamp	Solder	1.31(33.2)	.827(21.0)	.256(6.5)	C3	P1	D1	—	(75 $\Omega$ )	34525-75RFX	1
Ethernet® Cables Belden 89880(FEP), 9980(PVC); Malco 250-4314-0003(FEP), 250-4315-0004(PVC); Phalo 036-001-80145(FEP), 036-001-05633(PVC)	Crimp	Crimp	1.48(37.7) ■	.827(21.0)	.437(11.1)	C4	P1	D1	CTL-3	—	82-4426-11RFX	2

### RFX Type N CABLE JACKS • female contacts

Cable RG-/U	Cable Attachment		Dimensions, inches (millimeters)			Construction Notes				UG Ref. Number†	Amphenol RFX Number	Fig.
	Outer	Inner	a	b	c •	CAI	Pit.	Ins.	CTL Tool No.			
8, 9, 87A, 144, 165, 213, 214, 216, 225	Clamp	Solder	1.57(40.0)	.750(19.0)	.437(11.1)	C3	P1	D1	—	UG-23B	82-63-RFX	4
	Crimp	Crimp	1.57(40.0)	.650(16.5)	.437(11.1)	C4	P1	D1	CTL-3	—	82-4429-RFX	3
	Clamp	Solder	1.40(35.5)	.630(16.0)	.212(5.4)	C3	P1	D1	—	—	35025-RFX	4
58, 141, 142A	Crimp	Crimp	1.44(36.7)	.650(16.5)	.210(5.3)	C4	P1	D1	CTL-3	—	82-5376-RFX	3
	Clamp	Solder	1.40(35.5)	.630(16.0)	.256(6.5)	C3	P1	D1	—	(75 $\Omega$ )	36500-75RFX	4
Ethernet® cables - see above -	Crimp	Crimp	1.57(40.0)	.650(16.5)	.437(11.1)	C4	P1	D1	CTL-3	—	82-4429-RFX	3

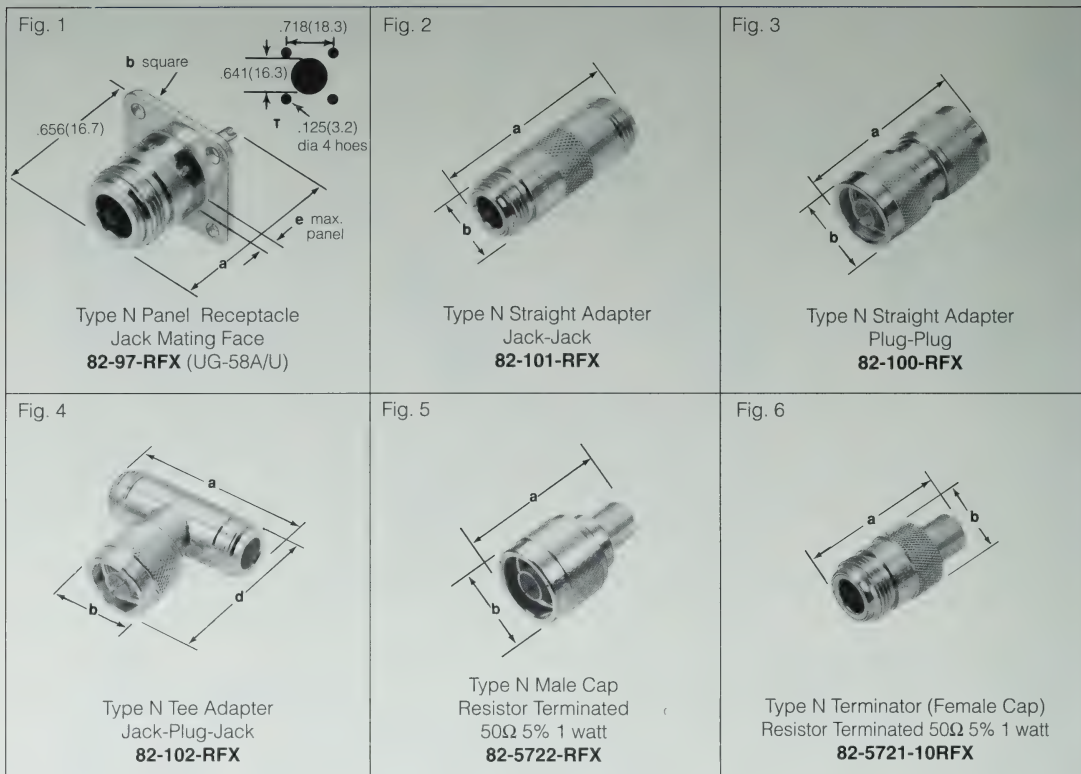
- accommodates cable diameter
- to end of outer ferrule

† Ethernet = Xerox Trademark

‡ for reference only. RFX™ connectors are for commercial use only



## RFX Type N receptacles, adapters & accessories



### RFX Type N PANEL RECEPTACLES

Description	Terminal Type	Dimensions, inches (millimeters)			Plt.	Ins.	Mtg Hole	UG Ref. Number†	Amphenol RFX Number	Fig.
		a	b	e						
4-hole Square Flange Panel Receptacle Front or Rear Mount	Solder Cup	1.13(28.7)	1.00(25.4)	.187(4.7)†	P1	D1	T	UG-58A	<b>82-97-RFX</b>	1

† max. panel when rear mounted through panel.

### RFX Type N ADAPTERS

Adapter Ends	Description	Dimensions, inches (millimeters)				Mtg Hole	Construction Notes			UG Ref. Number†	Amphenol RFX Number	Fig.
		a	b	d	e		Plt.	Ins.	Other			
Jack-Jack	Straight	1.50(38.1)	.622(15.8)	—	—	—	P1	D1	—	UG-29B	<b>82-101-RFX</b>	2
Plug-Plug	Straight	1.61(41.0)	.827(21.0)	—	—	—	P1	D1	—	UG-57B	<b>82-100-RFX</b>	3
Jack-Plug-Jack	Tee	1.75(44.5)	.827(21.0)	1.48(37.6)	—	—	P1	D1	—	UG-107B	<b>82-102-RFX</b>	4

### RFX Type N RESISTOR TERMINATED CAPS

Description	Dimensions, inches (millimeters)				Notes			UG Ref. Number†	Amphenol RFX Number	Fig.
	a	b	c	f	Plt.	Ins.	Other			
Male Cap, RT 50Ω 5% 1 watt	1.30(33.0)	.827(21.0)	—	—	P1	D1	—	—	<b>82-5722-RFX</b>	5
Female Cap, RT 50Ω 5% 1 watt	1.38(35.0)	.650(16.5)	—	—	P1	D1	—	—	<b>82-5721-10RFX</b>	6

† for reference only. RFX™ connectors are for commercial use only.

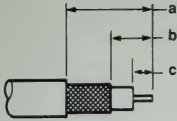
# Type N assembly instructions - C4 RFX

## CRIMP TYPES

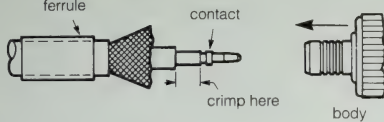


Amphenol Number	Connector Type	Cable RG-/U	Hex Crimp Data			Strip Dimensions, inches (mm)		
			Cavity for Contact	Cavity for Crimp Ferrule	CTL Series Tool Number	a	b	c
82-4426-11RFX	N Plug	8,213,214, Ethernet Cables	.100(2.5)	.429(10.9)	CTL-3	.630(16.0)	.303(7.7)	.157(4.0)
82-4429-RFX	N Jack	8,213,214, Ethernet Cables	.100(2.5)	.429(10.9)	CTL-3	.630(16.0)	.303(7.7)	.157(4.0)
82-5375-RFX	N Plug	58,141,142A	.100(2.5)	.213(5.4)	CTL-3	.630(16.0)	.303(7.7)	.157(4.0)
82-5376-RFX	N Jack	58,141,142A	.100(2.5)	.213(5.4)	CTL-3	.630(16.0)	.303(7.7)	.157(4.0)

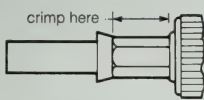
### Step 1



### Step 2



### Step 3



**Step 1** Place outer ferrule over cable. Strip cable to dimensions shown in table above.

**Step 2** Crimp contact onto center conductor of cable using CTL tool cavity shown in table above. (Alternative: Solder contact onto center conductor using soft solder and minimum heat).

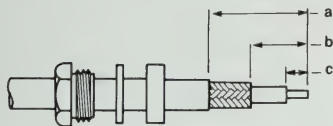
**Step 3** Slide inner ferrule of connector body between braid and insulator of cable until contact snaps in place (cable insulator butts connector insulator inside body assembly). Slide outer ferrule over braid and up against connector body. Crimp outer ferrule using CTL tool cavity shown in table above.

# Type N assembly instructions - C3 RFX

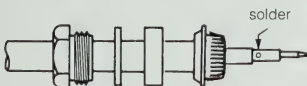
## CLAMP TYPES



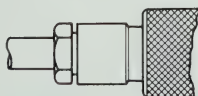
### Step 1



### Step 2



### Step 3



Amphenol RFX Number	Connector Type	Cable RG-/U	Stripping Dimensions, inches (mm)		
			a	b	c
34025-RFX	N Plug	58,141,142A	.354(9.0)	.177(4.5)	.177(4.5)
34525-75RFX	75Ω N Plug	59,62	.354(9.0)	.177(4.5)	.177(4.5)‡
35025-RFX	N Jack	58,141,142A	.354(9.0)	.177(4.5)	.177(4.5)
36500-75RFX	75Ω N Jack	59,62	.354(9.0)	.177(4.5)	.177(4.5)‡
82-63-RFX	N Jack	8,213,214	.315(8.0)	.020(0.5)	.177(4.5)
82-202-RFX	N Plug	8,213,214	.315(8.0)	.020(0.5)	.177(4.5)

**Step 1** Place nut, washer and gasket over cable. Strip cable to dimensions shown in table above.

**Step 2** Place clamp over braid, as shown, and push back against cable jacket. Fold back braid wires as shown. Tin center conductor and solder on contact.

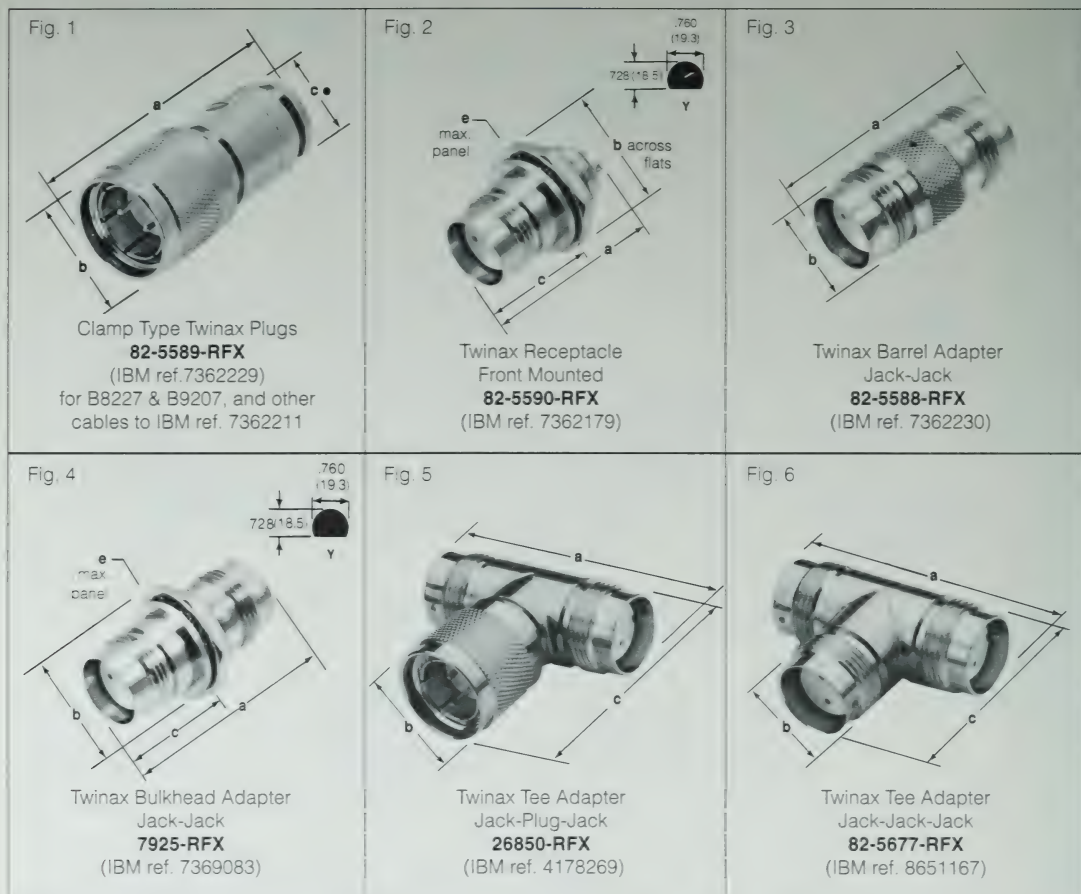
**Step 3** Insert cable and parts into connector body. Tighten nut.

‡ for RG-62, strip c = .216(5.5) and place plastic bushing over center conductor of cable before soldering on center contact

## RFX TWIN contact connectors

Amphenol® RFX™ Keyed 90° 3/4-20 thread Twinax connectors are used principally in system 3X/400 applications for balanced line high sensitivity circuits.

Normally used on 100Ω twinaxial cable, these units operate DC-200 MHz with a voltage rating of 500 V peak. See specifications page 26.



### RFX KEYED 90° TWINAX CONNECTORS • twin contacts • 3/4-20 thread mating

Description/ Cable	Cable Attachment		Dimensions, inches (millimeters)				Notes		MTG hole	IBM Ref. Number	Amphenol RFX Number	Fig.
	Outer	Inner	a	b	c	e	CAI	Plt. Ins.				
Times AA-6026, AA-6076, AA-6079 Brand Rex T8756A Belden 8227, 9207 IBM 7362211	Plug	Clamp	Solder or Crimp with CTL-4	1.85(47.0)	.890(22.6)	.340(8.7)•	—	C5 P2 D7	—	7362229	82-5589-RFX	1
Receptacle, Front Mount Solder Cup Terminals	—	—	—	1.58(40.1)	.945(24.0)	.787(20.0)	.295(7.5)	— P1 D3	Y	7362179	82-5590-RFX	2
Barrel Adapter Jack - Jack	—	—	1.67(42.4)	.768(19.5)	—	—	—	P1 D3	—	7362230	82-5588-RFX	3
Bulkhead Adapter Jack - Jack	—	—	—	1.67(42.4)	.945(24.0)	.740(18.8)	.216(5.5)	— P1 D3	Y	7369083	7925-RFX	4
Tee Adapter Jack - Plug - Jack	—	—	—	1.93(49.0)	.886(22.5)	1.77(45.0)	—	— P1 D3	—	4178269	26850-RFX	5
Tee Adapter Jack - Jack - Jack	—	—	—	1.93(49.0)	.750(19.0)	1.46(37.0)	—	— P1 D3	—	6851167	82-5677-RFX	6

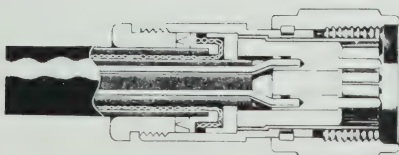
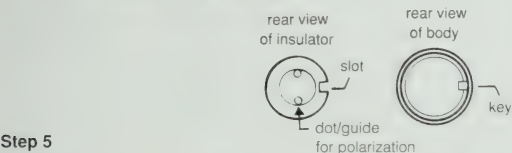
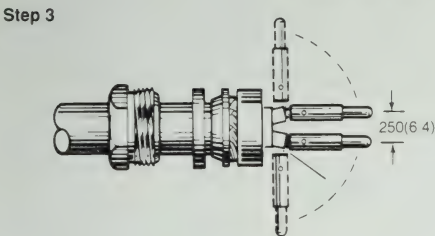
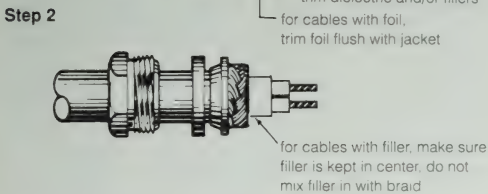
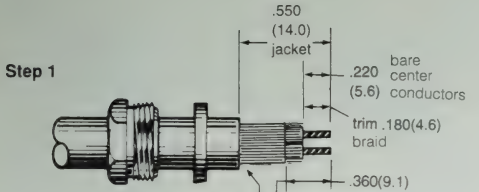
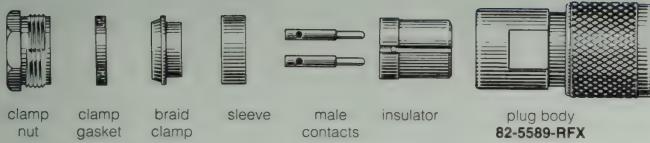
■ To end of crimp ferrule

• Accommodates cable o.d.



# Twinax assembly instructions - C5 RFX

## CLAMP TYPES



**Step 1** Slide clamp nut and clamp gasket over cable end. V-groove in clamp gasket faces toward connector body. Strip cable to dimensions shown. **Important:** Do not nick insulation around center conductors. For solid core cables, lay braid back out of way while trimming core; then lay braid down again to facilitate Step 2.

**Step 2** Slide braid clamp over braid until inner shoulder butts against jacket. (Note: sharp edge of braid clamp goes toward V-groove in clamp gasket.) Fold braid back evenly over braid clamp as shown.

**Step 3** Slide sleeve over cable so that braid bottoms inside sleeve. Solder contacts to conductors, using minimum heat. Remove any excess solder. [Alternative method: Crimp center contacts using CTL-4 tool cavities B & C]. Bend conductors and contacts out and back to obtain .250 (6.4) spacing between contacts.

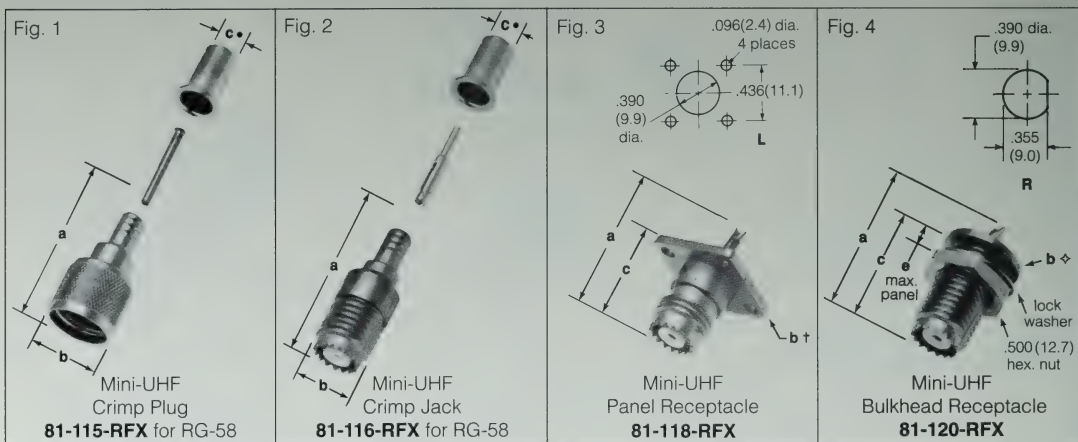
**Step 4** Insert contacts into rear of insulator. (Note: for Belden 9207 and similar solid core cables, contact on bare copper conductor [or for Belden 8227 and similar air dielectric cables, the contact on white insulated conductor] goes into hole with arrow/dot next to it.) Slide insulator to butt against sleeve as shown.

**Step 5** Insert assembly into connector body, aligning slot of insulator with polarizing key in body. Tighten clamp nut to 50 lbf-in. (5.7 N·m) torque.

## RFX Mini-UHF coaxial connectors

Amphenol® RFX™ Mini-UHF connectors are designed for use as coaxial interconnections in cellular mobile telephone systems and similar applications where size, weight, and

cost factors are critical. These 50Ω connectors operate DC- 2.5 GHz with low reflection and have a voltage rating of 335 V peak. See specifications, page 26.



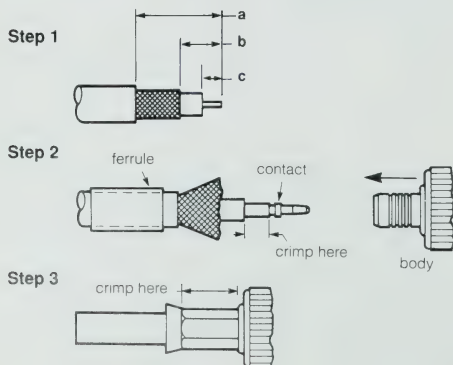
### RFX MINI-UHF CONNECTORS • 3/8-24 thread coupling

Cable RG-U	Connector Description	Cable Attachment		Dimensions, inches (millimeters)				Construction Notes			Mtg. Hole	Amphenol RFX Number	Fig
		Outer	Inner	a	b	c	e	CAI	Pit.	Ins.			
58,141,142A	Plug	Crimp	Crimp	.114(28.9)	.153(11.5)	.210(5.3)●	—	C3	P1	D1	—	81-115-RFX	1
	Jack	Crimp	Crimp	1.24(31.5)	.394(10.0)	.210(5.3)●	—	C3	P1	D1	—	81-116-RFX	2
—	Panel Receptacle	Solder Cup Terminal		.913(23.2)	.625(15.9)sq	.487(12.4)	—	—	P1	D8	L	81-118-RFX	3
—	Bulkhead Receptacle	Solder Cup Terminal		.913(13.2)	.500(12.7)dia	.513(13.0)	.125(3.2)	—	P1	D1	R	81-120-RFX	4

† b flange is .625(15.9) sq by .059(1.5) thick ◇ b flange is .500(12.7) dia. by .059(1.5) thick ● accommodates cable dia.  
RFX™ connectors are for commercial use only.

## Mini-UHF assembly instructions - C13 RFX

Amphenol RFX Number	Connector Type	Cable RG-U	Hex Crimp Data			Stripping Dimensions, inches (mm)		
			Cavity for Contact	Cavity for Outer Ferrule	CTL Series Tool Number	a	b	c
81-115-RFX	Mini-UHF Plug	58,141,142A	.068(1.7)	.213(5.4)	CTL-1	.583(14.8)	.256(6.5)	.157(4.0)
81-116-RFX	Mini-UHF Jack	58,141,142A	.068(1.7)	.213(5.4)	CTL-1	.625(15.9)	.299(7.6)	.236(6.0)

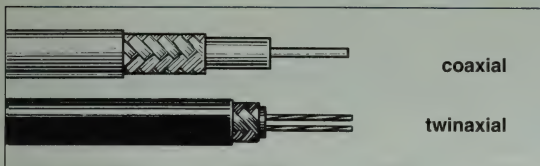


**Step 1** Place outer ferrule over cable. Strip cable to dimensions shown in table above.

**Step 2** Crimp contact onto center conductor of cable using CTL tool cavity shown in table above. (Alternative: Solder contact onto center conductor using soft solder and minimum heat).

**Step 3** Slide inner ferrule of connector body between braid and insulator of cable until contact snaps in place (cable insulator butts connector insulator inside body assembly). Slide outer ferrule over braid and up against connector body. Crimp outer ferrule using CTL tool cavity shown in table above.

# cable to RFX connector index



coaxial

twinaxial

## How to use this index

For a given cable we show the available RFX connectors alphabetically in series order. Within each series, we show the connector configurations: plug, angle plug, jack, panel jack, bulkhead jack. Then we show the cable attachment types: clamp, crimp, solder and others (see the assembly instruction pages for an explanation of the various attachment types). Next, we show the part number and the page of the catalog where additional details (dimensions, plating, mounting features) can be found. In addition, see page 101 for the connector assembly index by part number.

CONN. TYPE	CONNECTOR CONFIGURATION	CABLE ATTACHMENT OUTER - INNER	UG REF NUMBER‡	AMPHENOL RFX NUMBER	PAGE NO.
<b>RG-6 (75Ω, 1 GHz) Belden 9248</b>					
BNC	Plug	Clamp-Solder	UG-959	6775-RFX	102
BNC	Plug	Crimp-Press Fit 2 pc		31-5558-RFX	102
75Ω BNC	Plug	Crimp-Crimp		31-71000-RFX	102
<b>RG-8, 9, 144, 165, 213, 214, 216, 225 (50Ω)</b>					
N	Plug	Crimp-Crimp		82-4426-11RFX	113
N	Plug	Clamp-Solder	UG-21D	82-202-RFX	113
N	Jack	Crimp-Crimp		82-4429-RFX	113
N	Jack	Clamp-Solder	UG-23B	82-63-RFX	113
UHF	Plug	Solder-Solder	PL-259	83-1SP-15RFX	111
UHF	Plug	Solder-Solder	PL-259 (TFE)	83-822-RFX	111
<b>RG-58, 142A (50Ω, 1GHz)</b>					
BNC	Plug	Clamp-Solder	UG-88	31-2-RFX	102
BNC	Plug	Crimp-Crimp		31-320-RFX	102
BNC	Plug	Crimp-Press Fit 2 pc		31-5557-RFX	102
BNC	Plug	SURETWIN®		31-5137-RFX	102
BNC	Angle Plug	Crimp-Crimp		31-335-RFX	104
BNC	Jack	Clamp-Solder	UG-89	31-5-RFX	103
BNC	Jack	Crimp-Crimp		36800-RFX	103
BNC	Blkhd. Jack	Crimp-Crimp		31-342-RFX	103
N	Plug	Clamp-Solder	UG-536B	34025-RFX	113
N	Plug	Crimp-Crimp		82-5375-RFX	113
N	Jack	Crimp-Crimp		82-5376-RFX	113
N	Jack	Clamp-Solder		35025-RFX	113
TNC	Plug	Clamp-Solder		79875-RFX	109
TNC	Plug	Crimp-Crimp		31-2367-RFX	109
TNC	Blkhd. Jack	Crimp-Crimp		31-2369-RFX	109
Mini-UHF Plug		Crimp-Crimp		81-115-RFX	118
Mini-UHF Jack		Crimp-Crimp		81-116-RFX	118
UHF	Plug	FCP-Pliers		83-58FCP-RFX	111
To use the following UHF connectors on RG-58, purchase Reducing Adapter 83-185-RFX.					
UHF	Plug	Solder-Solder	PL-259	83-1SP-15RFX	111
UHF	Plug	Solder-Solder	PL-259 (TFE)	83-822-RFX	111
<b>RG-59, (75Ω, 1GHz); RG-62 (93Ω, 1GHz)</b>					
BNC	Plug	Clamp-Solder	UG-260B	31-212-RFX	102
BNC	Plug	QUICKTRIM®		31-4541-RFX	102
BNC	Plug	Crimp-Crimp		31-321-RFX	102
BNC	Plug	Crimp-Crimp	(for AWG 20 Ctr. Cond.)	68175-5-RFX	102
BNC	Plug	Crimp-Press Fit 2 pc		31-5556-RFX	102
BNC	Plug	SURETWIN®		31-5136-RFX	102
BNC	Angle Plug	Crimp-Crimp		31-336-RFX	102
BNC	Jack	Clamp-Solder	UG-261	31-15-RFX	103
BNC	Blkhd. Jack	Crimp-Crimp		31-343-RFX	103
75ΩBNC	Plug	Crimp-Crimp		31-71008-RFX	102
75ΩBNC	Angle Plug	Crimp-Crimp		31-71010-RFX	104
75ΩBNC	Jack	Crimp-Crimp		31-71009-RFX	103
75ΩBNC	Panel Jack	Crimp-Crimp		31-71012-RFX	103
75ΩBNC	Bulkh Jack	Crimp-Crimp		31-71011-RFX	103
TNC	Plug	Crimp-Crimp		31-71011-RFX	109
TNC	Bulkh Jack	Crimp-Crimp		31-2264-RFX	109

CONN. TYPE	CONNECTOR CONFIGURATION	CABLE ATTACHMENT OUTER - INNER	UG REF NUMBER‡	AMPHENOL RFX NUMBER	PAGE NO.
<b>RG-59, continued</b>					
75ΩTNC	Plug	Clamp-Solder		79525-75RFX	109
75ΩN	Plug	Clamp-Solder		34525-75RFX	113
75ΩN	Jack	Clamp-Solder		36500-75RFX	113
To use the following UHF connectors on RG-59, purchase Reducing Adapter 83-168-RFX:					
UHF	Plug	Solder-Solder	PL-259	83-1SP-15RFX	111
UHF	Plug	Solder-Solder	PL-259 (TFE)	83-822-RFX	111
<b>RG-174, 188, 316, (50Ω)</b>					
BNC	Plug	Crimp-Crimp		31-315-RFX	102
BNC	Bulkh Jack	Crimp-Crimp		31-318-RFX	103
TNC	Plug	Crimp-Crimp		31-2315-RFX	109
<b>RG-179, 187 (75Ω)</b>					
BNC	Plug	Crimp-Crimp		31-242-RFX	102
BNC	Bulkh Jack	Crimp-Crimp		31-245-RFX	103
75ΩBNC	Plug	Crimp-Crimp		31-71013-RFX	102
75ΩBNC	Jack	Crimp-Crimp		31-71014-RFX	103
75ΩBNC	Panel Jack	Crimp-Crimp		31-71017-RFX	103
75ΩBNC	Bulkh Jack	Crimp-Crimp		31-71016-RFX	103
TNC	Plug	Crimp-Crimp		31-2242-RFX	109

## Plenum cables

<b>RG-58 Plenum (50Ω, 1 GHz, TFE/FEP Jacket, .165 O.D., AWG 20) Belden 88240 (TFE), 82240 (FLMR)</b>					
BNC	Plug	Crimp-Crimp		36650-3RFX	102
BNC	Plug	Crimp-Press Fit 2pc		31-5559-RFX	102
<b>RG-59 Plenum (75Ω, 1 GHz, TFE/FEP Jacket, .193 O.D., AWG 22) Belden 89259 (TFE), 88241 (TFE), 87241 (FLCP), 87259 (FLCP), 82259 (FLMR)</b>					
<b>RG-62 Plenum (93Ω, 1 GHz, TFE/FEP Jacket, .204 O.D., AWG 22) IBM Cable Spec. 4885584 Belden 86262 (TFE), 82262 (FLMR)</b>					
<b>RG-62A Plenum (93Ω, 1GHz, TFE/FEP Jacket, .200 O.D., AWG 22) Belden 89269 (TFE), 82269 (FLMR)</b>					
BNC	Plug	Crimp-Crimp		68175-11RFX	102
BNC	Plug	Crimp-Press Fit 2 pc		31-5560-RFX	102
<b>RG-59 Plenum (75Ω, 1 GHz, TFE/FEP Jacket, .210 O.D. max., AWG 20) Belden 88241 (TFE), 82241 (FLMR)</b>					
BNC	Plug	Crimp-Crimp		68175-11RFX	102
<b>Dual RG-59 Plenum (75Ω, 1 GHz, TFE/FEP Jacket, .212 x .424, AWG 23) Belden 89555 (TFE)</b>					
BNC	Plug	Crimp-Crimp		68175-11RFX	102
<b>Plenum Ethernet® Cable (50Ω, 1 GHz, FEP Jacket, .375 O.D., AWG 12) Belden 89880; Malco 250-4314-0003; Phalo 036-001-80145</b>					
N	Plug	Crimp-Crimp	Gold Plt. Cont.	82-4426-11RFX	113
N	Jack	Crimp-Crimp	Gold Plt. Cont.	82-4429-RFX	113

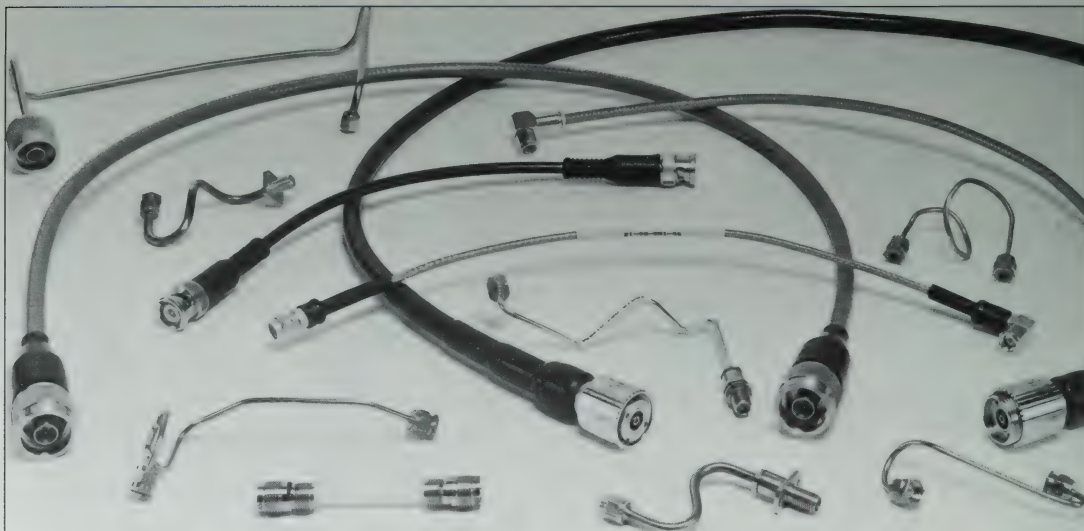
## Belden cables

<b>Belden 8227 (100Ω, 500 MHz, .325 O.D., AWG 20, Twinax)</b>					
TWIN	Plug-K90°	Clamp-Solder		82-5589-RFX	116
<b>Belden 8281 (75Ω, 1 GHz, Prec. Video, Dbl. Braid, .305 O.D., AWG 20)</b>					
BNC	Plug	Crimp-Crimp		31-321-10RFX	102
<b>Belden 9207 (100Ω, 1 GHz, .330 O.D., AWG 20, Twinax)</b>					
TWIN	Plug-K90°	Clamp-Solder		82-5589-RFX	116
<b>Belden 9248 (75Ω, 1 GHz, RG-6 Type, .275 O.D., AWG 18)</b>					
75Ω BNC	Plug	Crimp-Crimp		31-71000-RFX	102
<b>Belden 9880 (50Ω, 1 GHz, Ethernet®, PVC Jacket, .405 O.D., AWG 12)</b>					
N	Plug	Crimp-Crimp	Gold Plt. Cont.	82-4426-11RFX	113
N	Jack	Crimp-Crimp	Gold Plt. Cont.	82-4429-RFX	113
<b>Belden 89259 (75Ω, 1 GHz, RG-59 Type, TFE Jacket, .193 O.D., AWG 22)</b>					
<b>Belden 89269 (93Ω, 1 GHz, RG-62A Type, TFE Jacket, .200 O.D., AWG 22)</b>					
BNC	Plug	Crimp-Crimp		68175-11RFX	102
<b>Belden 89880 (50Ω, 1 GHz, Ethernet®, FEP Jacket, .375 O.D., AWG 12)</b>					
N	Plug	Crimp-Crimp	Gold Plt. Cont.	82-4426-11RFX	113
N	Jack	Crimp-Crimp	Gold Plt. Cont.	82-4429-RFX	113

‡ For reference only - RFX™ connectors are for commercial use only.



## RF/Microwave cable assemblies - 95 Series



### CUSTOM AND PRODUCTION-RUN CABLE ASSEMBLIES FOR RF AND MICROWAVE SYSTEMS

Amphenol® RF is prepared to meet the most exacting microwave system requirements for coaxial, twinax and triaxial cable assemblies. Amphenol's advanced design, manufacturing and testing technology assure the highest quality products whether in prototype quantities or large production runs. Our line includes:

#### Products

- Semi-rigid cable assemblies. Diameters 0.47" to .500", in any lengths, up to 25 feet. With connectors such as SMA, TNC, BNC, N, APC-7 and APC-3.5. Straight or formed to customer specifications. Low loss and VSWR as required.
- Flexible cable assemblies. In most all RG sizes. Terminated with any coaxial, twinax or triaxial RF connector. Configuration and performance to customer specifications.
- High-performance flexible cable assemblies. Special low-loss cable in typical diameters of .195", .290" or .425". Configurations and connectors to customer specifications. Low loss, low VSWR designs available for mode-free operation up to 34 GHz.
- Phase-matched cable assemblies. Flexible or semi-rigid. Electrical lengths can be matched to within 2° at 18 GHz.
- Precision semi-rigid cable assemblies. Diameters .085", .141" and .250" in any lengths, up to 25 feet. Terminated in any combination of TNC, N, SMA, APC-7 or APC-3.5 connectors. Configuration and performance to meet customer requirements. Test data supplied on request with each assembly

#### Quality Assurance

- Our microwave product line is supported by a unique Amphenol-designed measurement system utilizing Hewlett-Packard automatic network analyzers and associated equipment. The system, used to evaluate all microwave and high performance cable assemblies, ensures accuracy in measuring electrical characteristics, including frequency range, VSWR, insertion loss, phase matching and group delay.
- Quality assurance procedures include strict adherence to MIL-I-45208 as standard practice, with MIL-Q-9858 utilized on special projects.

#### The Amphenol Advantage

- Superior connectors and unique components
- Assembly technique and product efficiency
- Testing technology and MIL-Spec quality assurance
- Lower cost on high performance items
- Lower cost on short runs
- Quick reaction on customer specials
- Amphenol quality and reliability

For prompt assistance with your cable assembly requirements, contact your nearest Amphenol RF/Microwave products representative or mail one of the attached inquiry cards.

Amphenol Corporation

## RF/Microwave Cable Assembly Requirements

Company \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_  
Date of Inquiry \_\_\_\_\_  
Quantity Required \_\_\_\_\_ Prototype \_\_\_\_\_ Date \_\_\_\_\_  
Delivery Requirements \_\_\_\_\_  
Program \_\_\_\_\_  
Customer's Drawing No. \_\_\_\_\_  
Customer Specification Control Drawing  
or Other Description(s) Attached: ☐ YES ☐ NO

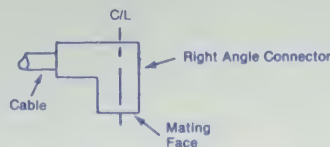
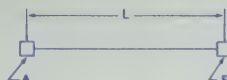
RFO Sales Engineer \_\_\_\_\_  
Contact \_\_\_\_\_  
Title \_\_\_\_\_  
Phone \_\_\_\_\_ FAX No. \_\_\_\_\_  
Production Quantities \_\_\_\_\_  
\_\_\_\_\_ Yearly Total  
Unit Price \_\_\_\_\_ (\$) in \_\_\_\_\_ (Quantity)  
Revision Level \_\_\_\_\_ Dated \_\_\_\_\_  
Location \_\_\_\_\_

### GENERAL REQUIREMENTS

#### 1. Cable Assembly Description: (See Grid on back)

\* L = Length \_\_\_\_\_ ('A' Connector Reference Plane  
to 'B' Connector Reference Plane)

\* In the case of right angle connectors, L should be given from the reference plane of the straight connector to the center line of the right angle connector. If A and B are both right angle connectors, L is the center line to center line distance between the two right angle connectors.



#### Connector A

Type \_\_\_\_\_  
Configuration \_\_\_\_\_  
Sex \_\_\_\_\_  
Termination \_\_\_\_\_  
Amphenol Part No. \_\_\_\_\_  
Military Part No. \_\_\_\_\_  
Other Mfr. Part No. \_\_\_\_\_

#### Connector B

Type \_\_\_\_\_  
Configuration \_\_\_\_\_  
Sex \_\_\_\_\_  
Termination \_\_\_\_\_  
Amphenol Part No. \_\_\_\_\_  
Military Part No. \_\_\_\_\_  
Other Mfr. Part No. \_\_\_\_\_

#### Connector Choice (Type)

(1) N (3) BNC (5) SMA (7) SMB (9) APC-7 (11) A-50  
(2) SC (4) TNC (6) SSMA (8) SMC (10) APC-3.5 (12) OTHER

#### Connector Configuration

(1) Straight (2) Right Angle (3) Bulkhead Mount (4) Panel Mount (5) Other \_\_\_\_\_

#### Connector Sex

(1) Male (Plug) (2) Female (Jack) (3) Hermaphroditic (4) Polarized

#### Connector Termination (Amphenol will specify if not specified by customer):

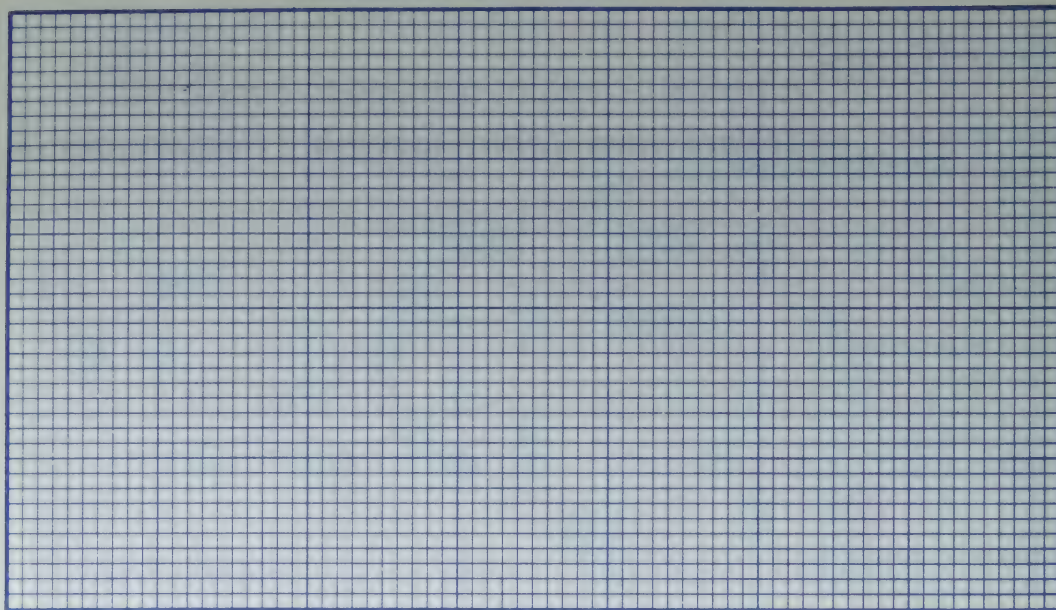
2. Cable (Amphenol will recommend if desired or not specified):  
RG/U \_\_\_\_\_ Other \_\_\_\_\_

3. Marking: (Hot ink stamp per Mil-I-23053/5 white ink on blue labels is standard)  
☐ Standard (white on blue) ☐ Other \_\_\_\_\_

FOR AMPHENOL RF USE

Amphenol Part No. Assigned \_\_\_\_\_ Price \_\_\_\_\_  
EAR No. \_\_\_\_\_ Delivery \_\_\_\_\_  
Signed \_\_\_\_\_ Date \_\_\_\_\_

IF CUSTOMER DRAWING OR SAMPLE IS NOT AVAILABLE, PLEASE USE THIS GRID  
TO SKETCH CABLE ASSEMBLY CONFIGURATION



(Please indicate scale and note bend radii, unusual mounting requirements, and other dimensional considerations.)

#### MECHANICAL REQUIREMENTS

1. Connector Interface \_\_\_\_\_ (Other than MIL-C-39012)
2. Cable Retention \_\_\_\_\_ lbs.
3. Dimensional Tolerances (Figures given below are standard. Closer tolerances are available on request.)

#### LENGTH

CABLE	0-6"	6"-12"	1'-3'	3'-10'	over 10'	ANGLES
Flexible	± .250"	± .250"	± .500"	± .500"	± 1% of length	—
Straight						
Semi-rigid	± .030"	± .060"	± .060"	± .200"	± 1%	—
Formed						
Semi-rigid	± .030"	± .060"	± .120"	± .250"	± 1%	± 3°

4. Unusual Mounting Requirements (describe fully/sketch above): \_\_\_\_\_

#### ELECTRICAL REQUIREMENTS

1. RF Frequency Range (GHz) \_\_\_\_\_ to \_\_\_\_\_
2. Impedance \_\_\_\_\_
3. VSWR (Max.) \_\_\_\_\_ at \_\_\_\_\_ (GHz)
4. Insertion Loss (Max.) dB \_\_\_\_\_ at \_\_\_\_\_ (GHz)
5. Phase Matching  
± Degrees \_\_\_\_\_  
@ Frequency \_\_\_\_\_
6. Other \_\_\_\_\_

#### ENVIRONMENTAL CONDITIONS

1. Moistureproof \_\_\_\_\_
2. Ambient Temperatures  
\_\_\_\_\_ to \_\_\_\_\_ °C
3. Other \_\_\_\_\_

#### OPERATIONAL REQUIREMENTS

1. Minimum Expected Life \_\_\_\_\_
2. Vibration \_\_\_\_\_
3. Shock \_\_\_\_\_
4. Other \_\_\_\_\_

Additional Comments/Questions:



## Action Cards

For fast coax connector information fill in your requirement and mail one of these cards to us.

While the great majority of your RF/Microwave and data transmission interconnection needs can be met with products listed in this catalog, we encourage you to contact us with your special requirements and new program planning.

### BUSINESS REPLY MAIL

FIRST CLASS PERMIT NO. 746 DANBURY, CT

POSTAGE WILL BE PAID BY ADDRESSEE

#### Amphenol Corporation

RF/Microwave Operations  
Attn: Communications Dept.  
One Kennedy Avenue  
Danbury, CT 06810-9952

NO POSTAGE  
NECESSARY  
IF MAILED  
IN THE  
UNITED STATES

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FIRST CLASS PERMIT NO. 746 DANBURY, CT

POSTAGE WILL BE PAID BY ADDRESSEE

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One Kennedy Avenue  
Danbury, CT 06810-9952

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NECESSARY  
IF MAILED  
IN THE  
UNITED STATES

**Please have an Amphenol RF representative contact me regarding**

**My phone number is** \_\_\_\_\_ **Ext.** \_\_\_\_\_

**Send me information on:**

- ☐ Customer Applications for \_\_\_\_\_  
☐ RF/Microwave Coaxial Connectors  
☐ Between Series Adapters \_\_\_\_\_ IS & CN  
☐ RF/Microwave Cable Assemblies  
☐ Automatic Coaxial Terminators  
☐ Please add me to your mailing list.  
☐ Please drop me from your mailing list.

**Affix your mailing label below or please fill in:** \_\_\_\_\_ **Date** \_\_\_\_\_

**Name** \_\_\_\_\_ **Title** \_\_\_\_\_

**Company** \_\_\_\_\_ **Mail Stop** \_\_\_\_\_

**Address** \_\_\_\_\_

**City** \_\_\_\_\_ **State** \_\_\_\_\_ **Zip** \_\_\_\_\_

**Please have an Amphenol RF representative contact me regarding**

**My phone number is** \_\_\_\_\_ **Ext.** \_\_\_\_\_

**Send me information on:**

- ☐ Customer Applications for \_\_\_\_\_  
☐ RF/Microwave Coaxial Connectors  
☐ Between Series Adapters \_\_\_\_\_ IS & CN  
☐ RF/Microwave Cable Assemblies  
☐ Automatic Coaxial Terminators  
☐ Please add me to your mailing list.  
☐ Please drop me from your mailing list.

**Affix your mailing label below or please fill in:** \_\_\_\_\_ **Date** \_\_\_\_\_

**Name** \_\_\_\_\_ **Title** \_\_\_\_\_

**Company** \_\_\_\_\_ **Mail Stop** \_\_\_\_\_

**Address** \_\_\_\_\_

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**Address** \_\_\_\_\_

**City** \_\_\_\_\_ **State** \_\_\_\_\_ **Zip** \_\_\_\_\_

## Action Cards

For fast coax connector information fill in your requirement and mail one of these cards to us. Or call the factory at (203) 743-9272.

To be sure you receive future issues of our Amphenol RF Catalog and periodic updates, please use one of the cards to register your name on our mail list.



# the Amphenol® two minute RF connector course

## Defining an RF connector

Radio frequency (coaxial) connectors are specialized devices used to terminate and interconnect coaxial cables which carry high frequency signals.

## Terminology

**RG-/U:** "Radio Guide/Universal". Previously a government listing for coaxial cable, replaced by MIL-C-17. RG-/U remains the most common nomenclature for cables used in commercial applications.

**UG-/U:** "Union Guide/Universal". Previously a government listing for RF connectors, replaced by M39012. UG numbers have become commercialized in the sense that the configurations they denote are manufactured widely, but generally they are no longer made to the original UG specifications. Amphenol has available both the original UGs and the new, commercial RFX parts.

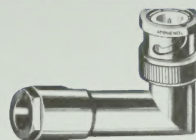
**M39012:** The principal military spec for RF connectors, it calls out electrical and other parameters that must be met. RFX™ connectors are not intended for use in M39012 applications.

## types and styles

Cable **PLUGS** have coupling rings and normally have a male pin center contact. They mate to jacks and receptacles.



straight



angle

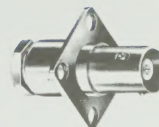
Cable **JACKS** mate to plugs and normally have socket center contacts.



straight



bulkhead

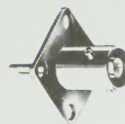


panel

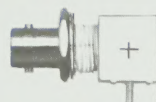
**RECEPTACLES** normally mate to plugs and are mounted on a panel or equipment chassis. Receptacles usually have socket contacts and normally are open wired (they don't terminate cable).



bulkhead

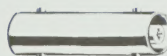


panel



printed circuit

**ADAPTERS** are used to join two or more incompatible units, such as a plug to a plug, either in the same series or between series.



straight



bulkhead



panel



angle



tee



between series

**STANDARD** UHF, N, HN, C, SC, Twin, Triax, Triax-C

**MINIATURE** BNC, 75Ω BNC, TNC, MHV, TPS, DM, Mini-UHF, Twin-BNC, Triax-BNC, Triax-TNC

**SUBMINIATURE** SMA, SMB, SMC, SSMA, SSMB, SSMC, A-50™

**PRECISION COAXIAL CONNECTORS** APC-2.4™, APC-3.5™, APC-7™, APC-N™





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